

Release Note

Topic u-connectXpress v2.0.0 for ANNA-B112
UBX-19009113
Author Len Albertsson
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1 General Information

1.1 Scope

This release note describes the u-connectXpress v2.0.0 software for ANNA-B112 modules. The u-connectXpress software was previously known as the u-blox connectivity software (uCS).

1.2 Supported hardware

1.2.1 New ordering code for the modules flashed with u-connectXpress v2.0.0

Product name	Ordering code	Type number	Software version
ANNA-B112	ANNA-B112-01B	ANNA-B112-01B-00	v2.0.0

1.2.2 Ordering codes for the modules upgradeable to u-connectXpress v2.0.0

Product name	Ordering code	Type number	Software version
ANNA-B112	ANNA-B112-00B	ANNA-B112-00B-00	v1.0.0

It is possible to update all ANNA-B112 modules to u-connectXpress v2.0.0. See the [ANNA-B1 System Integration manual](#) for information about the software update procedure.

1.3 Released software package

File	Description
ANNA-B112_2.0.0.zip	u-connectXpress v2.0.0 software package

The software package is available for download from www.u-blox.com.

1.4 Updated documentation

Document	Document ID
ANNA-B112 Data Sheet	UBX-18011707
ANNA-B112 System Integration Manual	UBX-18009821
ANNA-B112 Product Summary	UBX-18006008
Using u-connectXpress software User Guide (replaces the ANNA-B1 Getting Started, UBX-18020387)	UBX-16024251
u-connect AT Commands Manual (previously named u-blox Short Range Modules AT Commands Manual)	UBX-14044127

The documents are available for download from www.u-blox.com

1.5 Released software tools

The s-center version 4.7.1 or later is recommended for evaluation of u-connectXpress v2.0.0. When doing Software Update, baud rate should be set to 115200 in s-center version 4.7.1 and earlier. The s-center application is available for download from www.u-blox.com.

2 New features

u-connectXpress v2.0.0 for ANNA-B112 has all the features of previous software releases (u-blox connectivity software v1.0.0), plus improvements and new features such as the main ones described below. For more information about using these features, see the [Using u-connectXpress software UserGuide](#) and the [u-connect AT commands manual](#).

2.1 LE Secure Connections

ANNA-B112 now supports the enhanced security mode “LE Secure Connections” for protection against man-in-the-middle attacks and increased encryption using the FIPS-compliant key generation algorithm called Elliptic Curve Diffie Hellman (ECDH). For further details see the *Using u-connectXpress software User Guide* and the AT commands - AT+UBTPM, AT+UBTST, AT+UBTGCHA and AT+UBTGDES.

2.2 Major increase of GATT characteristics/services

The maximum number of GATT services and characteristics that can be created and stored in ANNA-B112 has been increased significantly. The maximum number depends on the configuration of ANNA-B112 and can be up to 29 characteristics. For further details, see the *Using u-connectXpress software User Guide* and the AT command AT+UBTGCHA and the new optional parameter <max_length>.

2.3 Extended Advertisements

Support for extended advertisement messages according to the Bluetooth 5 specification has been implemented. This includes longer broadcast/advertising messages and use of more advertising channels for offloading the three legacy advertisement channels. For further details, see the *Using u-connectXpress software User Guide* and the AT commands - AT+UBTLECFG (parameter 29) and AT+UBTAD.

2.4 Improved customization possibilities for Device Information Service record

The Device Information Service in Bluetooth Low Energy exposes manufacturer and vendor information about a device. The information in the Device Information Service can be read by remote Bluetooth low energy devices, for example manufacturer’s name, model number, firmware revision, and software revision. The complete set of available data fields in the service record can now be fully customized via an AT command. For further details see the updated AT command AT+UBTLEDIS.

2.5 Possibility to disable the DC/DC converter

It is now possible to disable automatic switching between the DC/DC converter and the LDO, to force the module to always use the LDO. This can for example, be useful in areas with extreme magnetic fields. For further details, see the AT command AT+UPWRREG.

3 Notes and limitations

3.1 Solved limitations

Description	Reference
In EDM mode, command response lines may be lost due to the internal event buffer being full, for example when listing all bonded devices using AT+UBTBD the list may be incomplete due to lines being lost.	TE_NINA_NRF_FW-422 UCS_DEV-80
A high load of transmitted data with UART flow control disabled, for example using an SPS connection, may make the module disconnect.	TE_NINA_NRF_FW-702 TE_NINA_NRF_FW-831
Bonding (AT+UBTB) is not functional when the device is configured in simultaneous central and peripheral role (AT+UBTLE=3).	TE_NINA_NRF_FW-807
Reading RSSI (AT+UBTRSS) when peer is out of range hangs the module.	TE_NINA_NRF_FW-911
Sending a connection command (AT+UBTACL) in "configuration over air" mode makes the module restart.	TE_NINA_NRF_FW-842

3.2 Known limitations

Description	Reference
The command to read multiple GATT characteristics (AT+UBTGRM) is not functional and returns an error response.	TE_NINA_NRF_FW-254 UCS_DEV-30
The disconnect command (AT+UDCPC=1) is not functional until reception of the confirm event of the connect command. The workaround is to wait for the connection confirmation before sending the disconnect command.	TE_NINA_NRF_FW-284 UCS_DEV-142
When using the external pairing functionality (pairing using SWITCH_0, see AT+UBTSM), the LED flashes orange (GPIO pins for red and green LEDs are active) for 60 seconds even after successful bond.	TE_NINA_NRF_FW-426 UCS_DEV-29
In the EDM mode, when a central node connects to a remote peripheral device, the wrong frame size is reported in the EDM Connect Event (0x0011). To get the correct size, use the Resend Connect Events (0x0056) command.	TE_NINA_NRF_FW-531 UCS_DEV-185
Incoming connection from remote default peer is rejected. The issue is seen in the following setup: 1. On device A, set device B as default peer 2. Connect from device B to device A using UDCP or default peer configuration	TE_NINA_NRF_FW-533
The un-bond command (AT+UBTUB) is not functional until reception of the confirm event of the bonding command. The workaround is to wait for the bonding confirmation before sending the un-bond command.	TE_NINA_NRF_FW-677 UCS_DEV-77
The response to "Maximum allowed output power" (AT+UBTCFG param_tag 4) is the unsigned representation of the configured value.	TE_NINA_NRF_FW-748 UCS_DEV-78
The command to discover all characteristic descriptors (AT+UBTGDCD) is missing the response event when using 128 bit UUIDs.	TE_NINA_NRF_FW-910
When going from Discoverable mode to Non Discoverable (AT+UBTDM), and then back, the Scan Response data is cleared.	UCS_DEV-176

Description	Reference
Extended advertisement (AT+UBTAD) should support up to 252 bytes of data but is limited to maximum 232 bytes of data.	UCS_DEV-79
The module resets when extended advertisements are disabled after enabling them (AT+UBTLECFG parameter tag 29).	UCS_DEV-83
The minimum value for the Connect linkloss timeout (AT+UBTLECFG parameter tag 7) is 100 ms, but setting any value < 110 makes the module hang on store and restart.	UCS_DEV-174
It is not possible to switch to EDM after establishing a Bluetooth low energy connection. No data can be transferred. The workaround is to first switch to EDM, and then establish the Bluetooth low energy connection.	UCS_DEV-175
Not possible to send notifications longer than 20 bytes when setting MTU size 247 (AT+UBTGSN).	UCS_DEV-227