Release note

Topic **u-connectXpress Mesh for ANNA-B112 and NINA-B1 series**

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1 General information

1.1 Scope

This release note describes the u-connectXpress Mesh software for ANNA-B112 and NINA-B1 series modules.

1.2 Supported hardware

1.2.1 Modules and evaluation kits upgradeable to u-connectXpress Mesh

Product name	Ordering code	Type number	Note
ANNA-B112	All	All	External low frequency clock (LFRC) is required
EVK-ANNA-B112C	All	All	
EVK-ANNA-B112E	All	All	
EVK-ANNA-B112U	All	All	
NINA-B111	All	All	
NINA-B112	All	All	
EVK-NINA-B111	All	All	
EVK-NINA-B112	All	All	

See the ANNA-B112 system integration manual [1] and the NINA-B1 system integration manual [2] for information about the software update procedure.

1.3 Released software package

File	Description
ANNA-B112-2.1.0-MESH.zip	u-connectXpress Mesh software package for ANNA-B112
NINA-B11X-5.1.0-MESH.zip	u-connectXpress Mesh software package for NINA-B1 series

The software package is available for download from ANNA-B112 u-connect software and NINA-B1 u-connect software web pages.

1.4 New documentation

Bluetooth Mesh with u-connect software application note [3].

1.5 Support tools

The PC support application s-center is available for download from s-center evaluation software web page.

2 Features

Offering configuration and data interface using AT commands, u-connectXpress Mesh software implements Bluetooth Mesh v1.0 in accordance with the Bluetooth SIG specification.

The Bluetooth Mesh v1.0 specification allows for many-to-many communication and operates on a flood network principle. The Bluetooth Mesh specifications were defined in the Mesh Profile and Mesh Model specifications by the Bluetooth Special Interest Group (SIG).

AT commands and events related to the following functionality are available:

- Model creation including Pre-defined Bluetooth SIG Models
- Configuration and provisioning of Bluetooth Mesh nodes
- Publishing of model data
- Reception of status and model data

Supported types of Bluetooth Mesh node roles (can be combined):

- Regular
- Relay
- GATT proxy node

For more information about using Bluetooth Mesh, see the Bluetooth Mesh with u-connect software application note [3].

The software is also available for the NINA-B3 series modules, with slightly different characteristics and capabilities, as shown in table below.

Characteristics and capabilities:

	ANNA-B1 / NINA-B1	**NINA-B3 (for reference)**
Bluetooth Mesh		
Maximum number of models created (using `AT+UBTMMOD`)	15	30
Maximum number of elements created (using `AT+UBTMELM`)	20	59
Maximum number of non-virtual addresses handled by mesh Device Manager (stored publish or subscribe addresses)	40	184
Other functionality		
Extended data mode (EDM)	Not available	Yes
Maximum number of Bluetooth Low Energy connections	3	8
Low frequency clock (LFCLK) selection for ANNA-B1	External only	N/A
I2C stream	Not available	Yes (as for standard u-connectXpress)
GPS decorator (I2C feature)	Not available	Yes (as for standard u-connectXpress)
Echo stream	Not available	Yes (as for standard u-connectXpress)
Fixed MTU size	69 in mesh mode (not possible to adjust)	69 in mesh mode (not possible to adjust)

3 Notes and limitations

3.1 Known limitations

Description
An external low frequency clock is required for ANNA-B112 Note: ANNA-B112 evaluation kit includes the low frequency clock.

4 References

[1] ANNA-B112 system integration manual, UBX-18009821
[2] NINA-B1 system integration manual, UBX-15026175
[3] Bluetooth Mesh with u-connect software application note, UBX-19025268