RE: Certification Application
Product family: NINA-B1
HVIN: NINA-B111 and NINA-B112
FCC ID: XPYNINAB1
IC: 8595A-NINAB1

NINA-B1 FCC/IC filing cover letter

Background

u-blox intend to file an application for single-modular transmitter approval with shared FCC ID for our product NINA-B1 available in the variants NINA-B111 and NINA-B112 as shown in the table below. Parts of this document were submitted as a cover letter to our KDB enquiry (Tracking Number 509290) on the use and applicability of test reports from NINA-B111 on NINA-B112.

u-blox product variant	Proposed FCC ID:
NINA-B111	XPYNINA-B1
NINA-B112	XPYNINA-B1

NINA-B1 product description

The NINA-B1 series are small stand-alone Bluetooth low-energy (LE) modules with NFC passive tag functionality. They are offered in two variants; NINA-B111 (10 x 10.6 mm) with the BLE RF-port available at an antenna-pin, and the extended NINA-B112 (10 x 14 mm) having the RF-port connected to an internal PIFA antenna. The modules can only operate in 1 Mbps BLE mode. The included BLE stack from Nordic Semiconductors supports concurrent Central and Peripheral roles with up to three connections as central and one connection as peripheral. Both module variants require an external NFC antenna in order to support NFC; the antenna is connected to two NFC antenna pins underneath the module. Only passive tag functionality is available. The NINA-B1 modules operate in the 2.4 GHz ISM band and at 13.56 MHz for NFC.

Both product variants use identical firmware on the radio transceiver.

Product variants, technical differences

Both product variants, NINA-B111 and NINA-B112, have identical RF and digital parts. PCB stack-up and Layout under the RF shield cover is identical on both variants. The only difference between the two variants is the added 3.4 mm of PCB on NINA-B112 that carries the internal PIFA antenna.

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Table 1: NINA-B1 module versions

Model	Description	Module photo
NINA-B111	NINA-B1 with a 10.0 x 10.6 mm PCB, RF-port available at antenna-pin to connect an external antenna.	
NINA-B112	NINA-B1 with a 10.0 x 14.0 mm PCB, RF-port connected to internal PIFA antenna.	

The module pin-out, operating conditions, and electrical characteristics are identical for both versions