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**Federal Communications Commission**

Equipment Authorization Branch

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## Request for Part 15 Single-Modular Transmitter Approval

To whom it may concern:

We, u-blox AG, hereby requests for modular transmitter approval of our NORA-W4 module series.

The equipment is described as follows:

Models	FCC ID
NORA-W401	XPYNORAW4
NORA-W461	XPYNORAW4
NORA-W406	XPYNORAW4
NORA-W466	XPYNORAW4

In CFR Title 47 Chapter I Subchapter A Part 15 Subpart C Section 15.212 there are eight numbered requirements that our device complies with:

**1. The modular transmitter must have its own RF shielding**

The module has its RF-parts enclosed by a shield cover soldered onto the module ground plane.

**2. The modular transmitter must have buffered modulation/data inputs**

The module do not have modulation inputs. The electrical interface available to the module integrator consists of Power supply, UART, RMII, SPI and I/O signals. The interface signals are internally buffered by the module System on Chip and cannot affect the modulation.

Detailed instructions on how to connect these interface signals are given in the integration manual.

**3. The modular transmitter must have its own power supply regulation**

The module SoC (System on Chip) has its own internal voltage regulators. In case the supply voltage fluctuates internal voltages will be kept unaffected.

**4. The modular transmitter must comply with the antenna requirements of Section 15.203, 15.204(b) and 15.204(c)**

The RF-port of module versions of NORA-W401 and NORA-W461 is available at a solder land and the antenna trace reference design guides the module integrator how to connect this solder land to a U.FL connector.

The module versions NORA-W406-00B and NORA-W466-10B and are equipped with an integrated antenna. On these module versions, the RF-port is not available for external antenna connection.

**5. The modular transmitter must be tested in a stand-alone configuration**

The module was soldered onto the evaluation board EVB-NORA-W4 and tested in a stand-alone configuration. The antenna trace reference design connecting the RF-port of the NORA-W401 and NORA-W461 to a U-FL connector was implemented on the EVB-NORA-W4 evaluation board.

**6. The modular transmitter must be labelled with its own FCC ID number**

The module is too small for the FCC ID to be readable and as a consequence not labelled with its own FCC ID. The FCC identifier is instead in accordance with 47 CFR §2.925 (f) placed in the user manual and also placed on the device packaging. Instructions are also provided in the user manual how the end-product containing the module must be labelled.

**7. The modular transmitter must comply with any specific rule or operating requirements applicable to the transmitter and the manufacturer must provide adequate instructions along with the module to explain any such requirements.**

Detailed instructions to the module integrator are presented in the User's Guide.

**8. The modular transmitter must comply with any applicable RF exposure requirements in its final configuration.**

The NORA-W4 modules complies with the RF exposure limits when integrated into host devices categorized as mobile and/or portable. See separate document for RF exposure calculations.

Sincerely,



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