



TCB Modular Approval Request Letter

Manufacturer name: u-blox AG
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Info: www.u-blox.com
Subject: TCB Modular Approval Request Letter

FCC ID: XPYUBX21BE02
Type of Equipment: LTE CAT1 cellular module

Herewith we state that the requirements according to FCC Part 15.212 are met and the module qualifies for a single modular transmitter approval.

#	Requirement as per 47 CFR Part 15 Subpart C §15.212	Conditions met? (Y/N)	Realisation / Evidence in FORM 731 application filing
i	RF shielding The radio elements of the modular transmitter must have their own shielding. The physical crystal and tuning capacitors may be located external to the shielded radio elements.	Y	<i>All radio parts are fully shielded</i>
ii	Buffered modulation/data inputs The modular transmitter must have buffered modulation/data inputs (if such inputs are provided) to ensure that the module will comply with part 15 requirements under conditions of excessive data rates or over-modulation.	Y	<i>It's part of the radio chipset implementation</i>
iii	Power supply regulation The modular transmitter must have its own power supply regulation.	Y	<i>PSU is integrated in the module, see schematic and block diagram</i>
iv	Antenna requirements The modular transmitter must comply with the antenna and transmission system requirements of §§15.203, 15.204(b) and 15.204(c). The antenna must either be permanently attached or employ a "unique" antenna coupler (at all connections between the module and the antenna, including the cable). Additional justification and details may be requested – please refer to KDB 996369	Y	<i>A default antenna is taken as reference, MPE is calculated in reports</i>
v	Stand-alone test configuration The modular transmitter must be tested in a stand-alone configuration, i.e., the module must not be inside another device during testing for compliance with part 15 requirements. Unless the transmitter module will be battery powered, it must comply with the AC line conducted requirements found in §15.207. AC or DC power lines and data input/output lines connected to the module must not contain ferrites, unless they will be marketed with the module (see §15.27(a)). The length of these lines shall be the length typical of actual use or, if that length is unknown, at least 10 centimeters to insure that there is no coupling between the case of the module and supporting equipment. Any accessories, peripherals, or support equipment connected to the module during testing shall be unmodified and commercially available (see §15.31(i)).	Y	<i>Module is solely mounted on his Interface (1): see test report/ test set-up photos.</i> <i>(1)</i> <i>The module underwent testing on a development board with a reference trace to the antenna port. Both the development board and reference trace aimed to minimize any impact on the module's performance. Extensive testing with other modules on the same development board, along with consistent prior results, reinforces this conclusion. Consequently, we are confident that, within the specified design constraints, we have diligently met this requirement. This gives us a high level of assurance that the module will demonstrate compliance when operating in a stand-alone configuration.</i>

vi	Labelling The modular transmitter must be equipped with either a permanently affixed label or must be capable of electronically displaying its FCC identification number.	Y	<i>The module has it's label, see label example</i>
vii	Compliance on specific rule or operating requirements The modular transmitter must comply with any specific rules or operating requirements that ordinarily apply to a complete transmitter and the manufacturer must provide adequate instructions along with the module to explain any such requirements. A copy of these instructions must be included in the application for equipment authorization.	Y	<i>The required FCC rules has been fulfilled and all instructions for maintaining compliance has been clearly stated in the user manual</i>
viii	RF Exposure Radio frequency devices operating under the provisions of this part are subject to the radio frequency radiation exposure requirements specified in §§1.1307(b), 1.1310, 2.1091, and 2.1093 of this chapter, as appropriate. Applications for equipment authorization of modular transmitters under this section must contain a statement confirming compliance with these requirements. The modular transmitter must comply with any applicable RF exposure requirements in its final configuration.	Y	<i>RF exposure requirements are fulfilled for mobile configuration. The installation of the module is restricted to mobile host devices what is clearly stated in the installation instruction of the user manual.</i> <i>For portable applications OEM integrators need SAR evaluation and an own FCC ID.</i>

* Please provide a detailed explanation if the answer is "No".

Signed for and on behalf of u-blox AG :

Name	Giulio Comar
Position	Certification Manager
Date of issue	16 January 2024
Signature	 u-blox AG