



## MODULAR APPROVAL REQUEST

Mar 31, 2021

To: Federal Communications Commission  
Equipment Authorization Branch - Laboratory Division  
Office of Engineering and Technology  
7435 Oakland Mills Road  
Columbia, Maryland  
USA  
21046

Subject: Modular Approval Request

Applicant: Aurora Wireless Networks Inc.  
106, 4715 – 13 St. NE,  
Calgary, Alberta,  
Canada  
T2E 6M3

Type of Equipment: Transceiver

FCC Identifier: 2AZEH-AMU900

Dear Sir or Madam:

Please be advised that the manufacturer declares that the above mentioned product satisfies the requirements for single modular transmitters subject to section 15.212 of the FCC ruling:

- I. The radio elements must have the radio frequency circuitry shielded. Physical/discrete and tuning capacitors may be located external to the shield, but must be on the module assembly;
  - a. The radio frequency (RF) circuitry of MLink incorporates a solid ground plane layer, covered by a metal RF shield.
- II. The module must have buffered modulation/data inputs to ensure that the devices will comply with Part 15 requirements with any type of input signal;
  - a. All signals (including data) and voltage supplies entering and leaving the RF shielded portion of MLink incorporate decoupling/filtering circuitry to limit unwanted signals from entering and leaving the shielded area. In addition a microprocessor is used to process data to and from the user device and RF portion of MLink, thus buffering the RF portion of the MLink from the user. Please see the MLink Functional Circuit Description and MLink Block Diagram documents for additional information.
- III. The module must contain power supply regulation on the module;
  - a. MLink Ultra can be battery powered and therefore operates over a wide voltage range (2.2 V – 4.2 V). In order to maximize energy efficiency over this range, the power supply voltage is measured and RF transmit power calibrated at several operating points to

control and regulated the transmitter over the full dynamic operating range. In addition if the power supply voltage is outside the specified operating range the PA (Power Amplifier) in the transmitter is prevented from operating. An RF Transceiver IC is implemented in MLink, which also incorporates several internal low drop out regulators. Please see the MLink Functional Circuit Description and MLink Block Diagram documents for additional information.

- IV. The module must contain a permanently attached antenna, or contain a unique antenna connector, and be marketed and operated only with specific antenna(s), per Sections 15.203, 15.204(b), 15.204(c), 15.212(a), 2.929(b);
  - a. The MLink Ultra AMU900 can be directly connected to an integral PCB antenna via a  $50 \Omega$  printed circuit microstrip trace, or to an external antenna using a non standard connector (MMCX). Please see the MLink Antenna Specification and MLink Users Guide documents for additional information.
- V. The module must demonstrate compliance in a stand-alone configuration;
  - a. A test fixture was used for regulatory testing which enabled MLink to operate stand alone.
- VI. The module must be labeled with its permanently affixed FCC ID label, or use an electronic display (See KDB Publication 997198 about labeling requirements);
  - a. Permanently affixed FCC ID labels are incorporated in the MLink modules. Please see MLink Labels document.
- VII. The module must comply with all specific rules applicable to the transmitter. The grantee must provide comprehensive instructions to explain compliance requirements;
  - a. Section 8 of the Users Guide (MLink Users Guide document) captures comprehensive instructions for the end users on compliance requirements.
- VIII. The module must comply with RF exposure requirements. For any transmitters intended for use in portable devices, SAR compliance must be demonstrated to be independent of the host device.
  - a. Maximum Permitted Exposure (MPE) compliance is demonstrated in the MLink 900 Maximum Permitted Exposure document. The MLink module is intended for fixed and mobile application where a minimum 20 cm separation from the users is required for SAR compliance.

Please contact the undersigned if you have any questions or need any further information.

Sincerely,



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