

**NARRATIVE STATEMENT**

Pursuant to Sections 5.3 (e) and (f), Section 5.51 and Section 5.53 of the Federal Communications Commission (“FCC”) rules, 47 C.F.R. §§ 5.3 (e) & (f), 5.51, 5.53 (2014), Amazon Robotics LLC respectfully requests experimental license with the radio station code “XE” (*i.e.*, for Experimental Export) to operate in the 433 MHz band for the purpose of evaluating the performance and functionality of a prototype proximity sensing system. This system will be deployed only within Amazon fulfillment centers located in other countries which specify 433 MHz as an unlicensed band.

In addition, Amazon Robotics respectfully requests expedited treatment of this request so that it may commence tests on or before **October 1, 2015**. Justification for such action is attached separately in the “Request for Expedited Treatment” accompanying this application.

The following provides additional details regarding this request.

**A. Purpose of Operation and Need for Experimental License:**

Amazon Robotics is designing and developing a proximity sensing system to enhance the safety of the operations at its fulfillment centers. It seeks to evaluate radiolocation technology to be used in the operation of robotics in fulfillment centers outside the United States. The experiments will be conducted at company facilities that have been configured with a 10 meter x 10 meter test floor mock-up of a typical environment inside a fulfillment center, which mainly consists of rack storage units where robotic equipment moves under and among the racks. The tests will involve turning on prototype transmitters and measuring the received signal strengths as the robotic equipment moves around on the test floor. Amazon Robotics will test different transmit power levels, transmitter heights, and transmitter orientations.

**B. Location of Proposed Operation:**

As noted above, the experiment will be conducted at an Amazon Robotics facility. The address and coordinates of the location are provided below:

300 Riverpark Drive  
North Reading, MA 01864

Coordinates (NAD83): 42°33'19"N  
71°07'55"W

C. **Technical Specifications:**

1. **Frequencies Desired**

Amazon Robotics requests an experimental license to operate on channels within the band 433.050 to 434.790 MHz.

2. **Effective Radiated Power**

The maximum effective radiated transmit power will be 10 milliwatts. The antenna heights will vary from ground level to a maximum of 6 feet (*i.e.*, the height of an average person).

In addition, Amazon Robotics will evaluate environmental considerations to ensure compliance with Section 1.1307 of the FCC's rules, 47 C.F.R. § 1.1307 (2014).

3. **Modulation and Emissions**

The primary emission designator for the experimental operations is 200KD7D. Other emission modes may be utilized, but in no event will the emissions extend beyond the frequency band requested.

4. **Equipment To Be Used**

Equipment Type:	Prototype Equipment
Manufacturer:	Amazon Robotics LLC
No. of Portable Units:	100
No. of Receive Units	100

5. **Antenna Information**

As noted above, the antenna heights will vary from ground level to a maximum of 6 feet. If deployed within an existing building, the antennas will not extend more than 6 meters above the building. If an antenna is mounted on an existing structure other than a building, it will be installed in accordance with Federal Aviation Administration ("FAA") and FCC rules and regulations.

**D. Restrictions on Operation:**

Amazon Robotics does not propose to market, sell, or lease prototype equipment to end users in the United States. As noted above, the company is designing the equipment for its own internal company use outside the United States. Moreover, after the experimentation ceases, it will recover all unauthorized devices.

Amazon Robotics also recognizes that other stations may be licensed on these frequencies and that the proposed experimental operation must not cause harmful interference to authorized facilities. It does not anticipate a problem, but should interference occur, it will immediately take steps to resolve the interference, including if necessary immediate shut down and the discontinuance of operation.

Amazon Robotics will also advise entities involved in the experimentation that permission to operate the equipment has been granted under experimental authority issued to Amazon Robotics, is strictly temporary and may be canceled at any time, and that any unauthorized equipment may not be and may not be, offered for sale or lease, or sold or leased, until authorization is obtained.

**E. Public Interest Statement:**

Amazon Robotics submits that issuance of an experimental license as requested is in the public interest, convenience, and necessity. Grant of an experimental license will permit them to develop innovative equipment that will allow the company to enhance the safety of the operations at its fulfillment centers outside the United States.

**F. Contact Information:**

For questions about this application, please contact:

Michael Lewis  
Wiley Rein LLP  
1776 K Street, N.W.  
Washington, DC 20006  
Telephone: (202) 719-7338  
Email: [mlewis@wileyrein.com](mailto:mlewis@wileyrein.com)

In the unlikely event interference concerns should arise during the period of authorization for this license, please contact:

Joe Finlayson  
Director, Regulatory Compliance  
Amazon Robotics LLC  
300 Riverpark Drive  
North Reading, MA 01864  
Telephone: (978) 276-2815  
Email: [jfinla@amazon.com](mailto:jfinla@amazon.com)