

NARRATIVE STATEMENT

By this application, Motorola, Inc., seeks an experimental license to test and demonstrate prototype equipment for public safety use operating on 4940-4990 MHz. Experimental activities will be conducted at various locations throughout the United States, as described below. The following information is provided in support of this request:

Purpose of Operation and Need for a 5-Year License:

Motorola proposes to test, demonstrate and operate prototype radio equipment for public safety use transmitting on 4940-4990 MHz. Motorola is continually developing equipment for public safety use and seeks to test and demonstrate this equipment during various stages of design and development to evaluate its functionality and acceptability prior to seeking equipment authorization. Grant of a license will serve the public interest, necessity and convenience, as it will allow Motorola over the course of the license period to improve upon equipment used to meet public safety needs.

Proposed Location:

Motorola seeks authority to conduct its experimental operations nationwide. Although it will conduct tests within 24 kilometers of its primary research and development sites at Schaumburg, IL, Chicago, IL, and at Plantation, FL, Motorola also plans to test and demonstrate equipment at up to 3 other locations in the United States. As it cannot at this time determine the specific locations of the additional tests, Motorola seeks blanket authority to operate nationwide (within the United States and its territories).

Please note, however, that Motorola will not operate at locations within radio astronomy areas designated in Table US311 as printed in FCC 02-47, the Second Report and Order concerning the 4.9 GHz band. Moreover, operations will be limited to fixed and mobile operations, i.e., no aeronautical operations will be conducted.

Specifically, Motorola proposes to conduct its experimental activities at the sites listed below as well as at three additional sites within the United States. Base stations would be operated within 24 km of the locations, and mobiles would operate within 32 km of the base stations.

Schaumburg, Illinois North Latitude 42 deg 02' 39" West Longitude 88 deg 02' 36" Datum: NAD27	Chicago, Illinois North Latitude 41 deg 52' 54" West Longitude 87 deg 38' 29" Datum: NAD27	Plantation, Florida North Latitude 27 deg 08' 51" West Longitude 80 deg 15' 15" Datum: NAD27
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Technical Specifications:

Frequency: 4940-4990 MHz FX & MO using TDD
Power: Base Station: 1 Watt Peak Power plus antenna gain (see below)
Mobiles: 1 Watt Peak Power plus antenna gain (see below)
Necessary
Bandwidth: Not greater than 20 MHz
Modulation: Multicarrier QAM
Emissions: 20M0D7W
Antennas: Base Station: Omnidirectional up to 6 dBi gain or directional up to 25 dBi gain, depending on application
Mobiles: Omnidirectional up to 6 dBi gain

Antenna Information:

The antennas will not extend more than 6 meters above the ground or, if mounted on an existing building, will not extend more than 6 meters above the building. If the antennas are mounted on an existing structure other than a building, they will be installed in accordance with FAA and FCC rules and regulations.

Equipment To Be Used:

The equipment proposed for this band operates in much the same manner as WLAN per the IEEE 802.11 standard. The radio equipment under investigation is relatively low power and high frequency compared to typical public safety radio communications equipment. Therefore, each base station has relatively small range, making a network approach necessary for some operational scenarios.

To obtain accurate data regarding real-world operations, Motorola must employ a sufficient number of units during its studies to simulate actual usage. It expects that it will be able to complete its experimentation and demonstration with not more than 25 base units and 50 mobile units per test location. In other words, 150 low power base stations and 300 mobiles reflect the maximum number of unapproved or unlicensed units that would be in operation at any given time at the six locations proposed under the experimental license it requests. Moreover, Motorola will limit the power, area of operation, and transmitting times to the minimum necessary to evaluate the equipment. As required, Motorola would seek separate and specific authority if more units were needed to conduct a particular experiment.

Restrictions on Operation:

Motorola recognizes that the operation of any equipment under experimental authority must not cause harmful interference to authorized facilities. It therefore will coordinate its activities with any licensees in the proposed bands in accordance with FCC requirements. Should interference occur, Motorola will take immediate steps to resolve the interference, including if necessary arranging for the discontinuance of operation.

In addition, Motorola will advise entities using the equipment that permission to operate has been granted under experimental authority issued to Motorola, that such operation is strictly temporary, and that the equipment may not cause harmful interference. Motorola proposes to label the equipment or associated written information as follows:

FCC STATEMENT

Permission to operate this device has been granted under experimental authority issued by the Federal Communications Commission to Motorola, Inc., is strictly temporary and may be cancelled at any time. Operation is subject to the condition that it not cause harmful interference. This device is not, and may not be, offered for sale or sold until the approval of the FCC has been obtained. Thus, the user does not hold a property right in the device and may be required to return the device.

Public Interest:

Motorola submits that issuance of a license is in the public interest, convenience, and necessity. Grant of a license will permit Motorola to develop innovative equipment that will accommodate the public safety communications needs of users.

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