

Motorola, Inc.
FCC Form 442
Exhibit 1 – Application for Modification of License
File No. 0047-EX-ML-2004
Call Sign WD2XCM

NARRATIVE STATEMENT

By this application, Motorola, Inc., seeks a modification of its experimental license to test and demonstrate prototype equipment operating in the 4940-4990 MHz band for public safety use. The original license was issued under File No. 0036-EX-PL-2003.

Specifically, Motorola seeks to add a test site to its license, at Tulsa, Oklahoma. No other changes to the technical specifications on the license are proposed. The following information is provided in support of this request:

Purpose of Operation:

Motorola is continually developing equipment for public safety use and proposes to test and demonstrate equipment transmitting on 4940-4990 MHz during various stages of design and development to evaluate 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 Locations:

As explained in its original license application, Motorola conducts tests within 24 kilometers of its primary research and development sites at Schaumburg, IL, Chicago, IL, and Plantation, FL. Nevertheless, it also tests and demonstrates equipment within 24 kilometers at other locations in the United States, as listed on its license.

Please note, however, that Motorola does 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.

By this modification application, Motorola proposes to conduct additional experimental activities at Tulsa, Oklahoma at the following coordinates. Base stations would be operated within 24 km of the location, and mobiles would operate within 32 km of the base stations.

Tulsa, Oklahoma
North Latitude 36 deg 12' 53"
West Longitude 95 deg 55' 23"
Datum: NAD27

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 as set forth in 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 50 base units and 100 mobile units per test location. Moreover, Motorola will limit the number of units, 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 modification license is in the public interest, convenience, and necessity. It will permit Motorola to continue to develop innovative equipment that will accommodate the public safety communications needs of users.

Contact Information:

Motorola Contact:

Brad Hiben, Engineer
Motorola, Inc.
1301 E. Algonquin Rd., MS 0509
Schaumburg, IL 60196
Telephone: (847) 576-3807
Fax: (847) 576-9018
brad.hiben@motorola.com

Legal Contacts:

David E. Hilliard, Esq.
Kurt E. DeSoto, Esq.
Wiley Rein & Fielding LLP
1776 K Street, N.W.
Washington, DC 20006
Telephone: (202) 719-7000
Fax: (202) 719-7049
dhilliard@wrf.com
kdesoto@wrf.com

12226149.1