

Motorola, Inc.
FCC Form 442
Request for Experimental Radio License
File No. 0033-EX-PL-2003

NARRATIVE STATEMENT

By this application, the iDEN/WLAN Subscriber Group of Motorola, Inc. ("Motorola"), seeks a two-year experimental radio license, beginning April 15, 2003, to develop, test and demonstrate prototype mobile communications handsets that will operate in the licensed bands 806–824 MHz and 896–901 MHz. The following information is provided in support of this request:

Purpose of Operation and Need for Experimental Radio License:

Motorola is a leading manufacturer of mobile communications handsets and is continually developing new equipment. It seeks FCC experimental authorization to test and demonstrate mobile equipment during various stages of design and development to evaluate functionality and acceptability prior to obtaining 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 subscribers' communications needs.

Specifically, Motorola proposes to gather critical information about new products before they are certified and shipped commercially in high volumes to telecommunications providers and subscribers. For example, it will evaluate handoff performance, network capacity, quality of service, multi-path performance, average data rates, and interference performance. It will also obtain data regarding hardware and software defects, some of which are difficult to assess until a sufficient number of units are deployed. By evaluating these products before obtaining approval, Motorola may be able to reduce warranty returns and eliminate defects and, thus, improve subscriber satisfaction.

Proposed Users:

Motorola has coordinated its proposed activities with current NEXTEL and other EA SMR iDEN subscriber operators (all of which use the Motorola iDEN manufactured phones). Units will be activated and operated primarily on NEXTEL's communications system with NEXTEL's permission.

As described in greater detail below, users will be advised according to FCC Rule Section 2.803, that the units have not been approved by the FCC, are not offered for sale, and must be returned to Motorola at the end of the test. Moreover, all units will be FCC and EME compliant.

Proposed Location:

By this application, Motorola seeks authority to conduct experimental operations nationwide. Although it will conduct tests within 80 kilometers of its research and development

site at Plantation, Florida, Motorola also plans to test and demonstrate equipment at up to three other locations in the United States. As it cannot at this time determine the specific locations of such tests, Motorola seeks blanket authority to operate nationwide (within the United States and its territories).

Specifically, Motorola seeks authority to operate products (1) at its own premises; (2) at the premises of entities working under Motorola's authorization in the design and development of the devices and related products; and (3) at business, commercial, industrial, scientific, or medical locations. Indeed, such operations would be consistent with the requirements set forth in Section 2.803 of the Commission's marketing rules. 47 C.F.R. § 2.803 (2001); *see also* Revision of Part 2 of the Commission's Rules Relating to the Marketing and Authorization of Radio Frequency Devices, ET Docket No. 94-45, *Report and Order*, released Feb. 12, 1997, at 11-13, 19-20 ("Marketing Rule Revisions").

In addition, Motorola seeks authority to operate at residential locations. Subscribers would be able use the units as they would any other unit, which would include residences. The nature of the services and devices associated with these services typically involve such usage and therefore should be tested at residential locations.

Technical Specifications:

Frequency:	806–824 MHz and 896–901 MHz
Effective Radiated Power:	1.5 Watts Peak
Necessary Bandwidth:	20 kHz per channel
Modulation:	D7W
Emissions Designator:	18K3D7W
Antenna:	Omnidirectional

Other emission modes may be utilized, but in no event will the emissions extend beyond the frequency bands requested. All power levels will comply with the limits set forth in the FCC's rules, including those relating to human exposure to radiation.

The antennae that would be employed under this license 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 an antenna is mounted on an existing structure other than a building, it will be installed in accordance with FAA and FCC rules and regulations.

Number of Units To Be Tested:

To obtain accurate data regarding real-world operations, Motorola must employ a sufficient number of units during its tests to simulate actual usage. It expects that it will be able to conduct its experimentation with 400 or fewer mobiles per test at no more than four sites simultaneously. Thus, it would not employ more than a total of 1600 mobiles overall for all of the experiments combined at any given time under the requested authority. In other words, 1600 mobiles reflect the maximum number of unapproved or unlicensed units that would be in operation at any given time

under this authorization. Motorola would also limit the power, area of operation, and transmitting times of these units 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.

Many of the consumer products Motorola proposes to test are typically sold in quantities of hundreds of thousands. For example, the potential market for its products include the entities that service over ninety million consumers that currently subscribe to cellular and cellular-like services in the United States. The sample test size for the program was set by the need to find issues which would manifest themselves in the field with a 0.5% / month return rate. 400 units at each test site are required to find an issue of this size with 90% confidence for any single project.

Restrictions on Operation:

Motorola understands that the FCC permits (1) companies to enter into agreements and contracts to manufacture new products and (2) manufacturers to sell—but not deliver—products on a conditional basis to wholesalers and retailers. Motorola also understands that the FCC permits the operation of equipment for, among other things, compliance testing, demonstration at trade shows and other exhibitions with appropriate notices displayed, and evaluation of product performance and subscriber acceptability at the manufacturer's facilities or at certain non-residential sites during the developmental, design and pre-production stages. *See* Marketing Rule Revisions; *see also* Part 15 Revisions, 6 FCC Rcd 1683, 1685 (1991).

Notwithstanding these general rules, the FCC requires parties to seek authorization to use devices that normally require a license to operate or that will be operated at residential locations. Such authority may be granted under the FCC's experimental rules set forth in Part 5 of the Code of Federal Regulations, 47 C.F.R. Part 5 (2001). Accordingly, Motorola seeks an experimental radio license to conduct experimental operations permitted under Part 5 of the Commission's rules. Those rules permit such operation provided that: (1) participants are advised that the service or device is granted under experimental authority and is strictly temporary; and (2) the devices are owned by the licensee.

Motorola does not propose to market, sell, or lease any prototype equipment to end users, however. After the experimentation ceases, Motorola would recall and recover all devices that are not in compliance with FCC regulations. If any different treatment becomes necessary during the course of its experimentation, Motorola will seek separate and additional authority from the agency.

Motorola also recognizes that the operation of any unapproved or unlicensed devices under experimentation must not cause harmful interference to authorized facilities. Should interference occur, Motorola will immediately take reasonable steps to resolve the interference, including if necessary discontinuing operation. To that end, Motorola would advise entities using the equipment that permission to operate the equipment has been granted under experimental authority issued to Motorola, is strictly temporary and may be canceled at any time. Specifically, Motorola proposes to label the equipment or user information conspicuously as follows:

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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 canceled at any time.

This device has not been authorized as required by the rules of the Federal Communications Commission. 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.

In any event, Motorola submits that its experimental operations are unlikely to cause interference. Indeed, Motorola has coordinated its operations with existing licensees in the areas of proposed operation.

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 communications needs of users.

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