

NARRATIVE STATEMENT

I. INTRODUCTION AND BACKGROUND

Pursuant to the Commission's rules, 47 CFR § 5.51 et seq. (2011), Motorola Mobility, Inc. (hereafter "Motorola"), respectfully requests the issuance of a new experimental license for the purposes of investigating new radio technologies, testing prototype devices under various field conditions, and the demonstration of prototype equipment under development.

The following information is provided in support of this request:

Motorola is a leading manufacturer of radio-frequency devices sold in the United States and overseas. It maintains its position in the industry by continually developing new products in response to evolving technologies and consumer demand.

Motorola is designing generations of transceivers that will operate in radio spectrum recently allocated for use in, among others, the *Miscellaneous Wireless Communications Services* (Part 27). Such devices are generally subject to the FCC's equipment authorization procedures before they may be marketed (i.e. pursuant to the certification requirements set forth in Section 2.1033 of the agency's rules, 47 C.F.R. § 2.1033 et seq. (2011)). They are also subject to the FCC's licensing requirements before they may be operated (e.g., under Parts 15, 22, 24, 27, 90, and 101 of the FCC's rules). Moreover, prototypes of these devices generally may not be tested or operated without a regular or experimental license (see *id.* at § 2.803).

Accordingly, Motorola has in the past obtained either an experimental license or special temporary authority for each specific effort to conduct compliance, performance, functionality, and acceptance testing of its prototype products as well as to demonstrate its prototype products. After seeking hundreds of these individual authorizations, Motorola applied for, and was granted, a blanket experimental license, authorizing nationwide operation under a broad number of frequency bands (see WF2XPE; File No. 0031-EX-TC-2011).

Motorola continues to believe that its practice of obtaining a regular experimental or special temporary authority for each product or experiment before conducting research and development does not provide it the needed flexibility to adapt quickly to changes in research plans and requirements. This request is fully consistent with the FCC's rule changes regarding blanket licenses in ET Docket No. 96-256. See Amendment of Part 5 of the Commission's Rules to Revise the Experimental Radio Service Regulations, ET Docket No. 96- 256, Report and Order, 13 FCC Rcd 21391 (1998)("ERS Streamlining Order").

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Motorola submits that the public interest, necessity and convenience are served by the grant (and subsequent renewal) of this license. As noted at paragraph 12 of the ERS Streamlining Order, such a grant enhances the company's ability to obtain information needed to ensure that the products it designs will accommodate and promote new technologies and services. It also allows Motorola to consolidate various experimental authorizations, thereby reducing the administrative burdens imposed upon the company and upon the Commission associated with the processing of hundreds of specific initial applications for regular licenses and requests for special temporary authority or their renewals when needed.

II. DETAILS OF OPERATION

a. Evaluations to be performed.

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, enhance the utility of these devices, and thus improve subscriber satisfaction.

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b. Frequencies and Power Levels.

Frequency Range	Station Class	Emissions Designator ⁴	Authorized Power	Frequency Tolerance
698 – 763 MHz	MO	XXX	3 W (ERP) ¹	
775 – 793 MHz	MO	XXX	3 W (ERP) ¹	
805 – 806 MHz	MO	XXX	3 W (ERP) ¹	
1390 – 1392 MHz	MO	XXX	4W (EIRP) ²	
1392 – 1395 MHz	MO	XXX	1W (EIRP) ²	
1432 – 1435 MHz	MO	XXX	4W (EIRP) ²	
1670 – 1675 MHz	MO	XXX	4W (EIRP) ²	
1710 – 1755 MHz	MO	XXX	1W (EIRP) ²	
5250 – 5350 MHz	MO/FX	XXX	0.25 W ^{1, 3}	
5470 – 5725 MHz	MO	XXX	0.25 W ^{1, 3}	

¹ RMS Average Power.

² Peak Power.

³ Conducted RF Power.

⁴ No specific Emissions Designators are provided, allowing flexibility for the development of new wireless services.

Motorola will also limit the power, areas of operation, and transmitting durations of experimental units to the minimum necessary to adequately evaluate the equipment.

c. Proposed Emissions, Modulating Signal, and Necessary Bandwidth.

Motorola seeks to employ various modes of modulation, bandwidth and data rates. Nevertheless, none of these modes of operation would extend beyond the limits set forth for the bands listed above.

d. Proposed Users.

Motorola intends to coordinate some of its proposed activities with Motorola personnel (typically within 80-km of its various development sites, Carrier personnel (within 80-km of their administrative and/or technical sites), and in particular with carrier end users, who might operate these devices nationwide.

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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 compliant with applicable FCC rules, including those governing RF exposure.

e. Proposed Location of Operation.

Motorola conducts its experimental operations primarily within 80-kilometers of its research and development facilities Plantation, Florida, Libertyville, Illinois, and San Diego, California, but it also seeks authority to conduct experimental operations at other locations within the United States. Because Motorola cannot now determine the exact locations of the tests it will conduct over the two-year term of this proposed license (and because it often must conduct tests on short notice at the locations of new or prospective customers located across the United States), Motorola requests blanket authority to operate on a nationwide basis (within the United States and its territories).

Specifically, Motorola seeks authority to test, demonstrate, and operate products: (1) at and around its own premises; (2) at and around the premises of entities working under Motorola's authorization in the design and development of the devices and related products; (3) at and around various carrier facilities, at trade shows or other non-residential exhibitions; and (4) at non-residential business, commercial, industrial, scientific or medical locations during the design, development and pre-production stages. Indeed, such operations would be consistent with the requirements set forth in Section 2.803 of the Commission's marketing rule: 47 CFR § 2.803 (2011).

In addition, Motorola seeks to obtain authority to operate mobile devices at certain end user locations, including residential locations. Grant of such authority is in the public interest and convenience. The nature of the services and devices associated with wireless services—for example cellular and PCS services in particular—typically involve such usage and therefore should be tested at user locations.

Nevertheless, Motorola does not conduct market studies under its license or unconditionally market, sell, or lease any prototype equipment to the public or to end-users. After the experimentation ceases, Motorola recalls and recovers all devices that are not in compliance with FCC regulations. If any different treatment becomes necessary during the course of its experimentation, Motorola would seek separate and additional authority from the agency.

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Moreover, as directed in the conditions specified on its current license, and consistent with the ERS Streamlining Order, Motorola shall notify the FCC of the specific details of each individual experiment, including location, number of base and mobile units, power, emissions designators, and any other pertinent technical information not specified by the blanket license before each test is conducted under its license. It will also accept and will comply with all other conditions specified on the license, as issued by the FCC.

f. Proposed Number and Type of Station.

Motorola requires authority to operate a sufficient number of units to conduct compliance, performance, functionality, and acceptance testing of its products as well as to demonstrate its products.

Many of the consumer products Motorola manufactures are typically sold in quantities of hundreds of thousands. For example, the potential market for its products includes the upwards of 230 million consumers that currently subscribe to cellular and cellular-like services in the United States. To obtain accurate data regarding real-world operations, Motorola must employ a sufficient number of units during its studies to simulate actual usage. It is able to conduct its experimentation, however, with 10 or fewer base stations and 200 or fewer mobiles per experiment/location and does not employ more than a total of 50 base stations and 750 mobiles overall for all of its experiments combined conducted under its authority. In other words, 50 base stations and 750 mobiles reflect the maximum number of unapproved or unlicensed units that are in operation at any given time under its authorization. As required, Motorola would seek separate and specific authority if more units were needed to conduct a particular experiment.

g. 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 nonresidential sites during the developmental, design and pre-production stages. See Marketing Rule Revisions; see also Part 15 Revisions, 6 FCC Rcd 1683, 1685 (1991).

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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.

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In any event, Motorola submits that its experimental operations are unlikely to cause interference. Motorola has typically coordinated its other, similar operations with existing licensees in the areas of proposed operation, and would continue to do so. Indeed, it expects that many of its experiments will be conducted on behalf of, and with the cooperation of, existing licensees. In most cases, Motorola will have the ability to disable any transmitter believed to be emitting harmful interference.

h. Public Interest.

Motorola submits that issuance of this experimental license would serve in the public interest, convenience, and necessity, as it will enhance Motorola's ability to develop innovative equipment and technologies that will accommodate the communications needs of the public.

i. Contact Information.

<u>Motorola Contact</u>	<u>Legal Contact</u>
John Lewczak FCC Liaison 8000 W. Sunrise Blvd.; Suite A Mail Stop 52-5JJ Plantation, Florida 33322 Tel: (954) 723-6272 FAX: (954) 337-2377 John.Lewczak@motorola.com	Kurt DeSoto, Esq. Wiley Rein, LLP 1776 K Street Washington, DC 20006 Tel: (202) 719-7235 FAX: (202) 7197049 KDeSoto@wileyrein.com