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Date: Fri, Aug 20, 1999 12:13 PM
Subject: Amendment to 0110-EX-PL-1999

Tony-

As discussed, attached is an amendment to Motorola's application for a blanket license under File No. 0110-EX-PL-1999. I would appreciate it if you could upload these into the system since the FCC is having computer problems accepting attachments.

Thanks for your help. Motorola is looking forward to getting a blanket license so that it can reduce the need for multiple licenses and STAs. Such will save all of us a lot of administrative burdens.

Please call with any questions.

Kurt
(202) 719-7235

(See attached file: MOT-CLTR.DOC)(See attached file: MOT-AMD.DOC)

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August 20, 1999

Federal Communications Commission
Experimental Radio Services
Office of Engineering and Technology
445 12th Street, S.W., Room 7B201
Washington, D.C. 20554

Re: Motorola, Inc.
Amendment to Application Electronically Filed April 2, 1999
for Authorization to Operate Experimental Radio Facilities Under Part 5
File No. 0110-EX-PL-1999

To the Commission:

On behalf of Motorola, Inc., transmitted herewith is an amendment to its application electronically filed April 2, 1999, seeking authorization to operate Experimental Radio facilities under Part 5 of the Commission's Rules.

Specifically, this amendment responds to an FCC inquiry regarding the application by modifying the frequency bands requested and clarifying the maximum number of units per location that are needed to conduct the experimentation.

Please call me at (202) 719-7235 or David E. Hilliard at (202) 719-7058 should you have any questions concerning this matter.

Respectfully submitted,

/s/

Kurt E. DeSoto
Counsel for Motorola, Inc.

Enclosure

cc: Anthony Serafini, FCC

MOTOROLA, INC.
FCC Form 442
Attachment
(SECOND AMENDMENT)

I. INTRODUCTION AND BACKGROUND

Motorola, Inc., 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 several new generations of transmitters and transceivers that will operate in the bands allocated to, among others, the paging, cellular, personal communications, microwave, SMR, MDS/ITFS/MMDS, and LMDS services. Such devices are generally subject to the FCC's equipment authorization procedures before they may be marketed (*i.e.*, the certification requirements set forth in Section 2.1033 of the agency's rules, 47 C.F.R. § 2.1033 *et seq.*). They are also subject to and the FCC's licensing requirements before they may be operated (e.g., Parts 22, 90 and 101 of the FCC's rules). Moreover, prototypes of these devices generally cannot be tested or operated without a regular or experimental license. See 47 C.F.R. § 2.803.

Accordingly, Motorola has in the past obtained either an experimental license or special temporary authority to conduct compliance, performance, functionality, and acceptance testing of its prototype products as well as to demonstrate its prototype products. It currently has over 200 authorizations referenced in the FCC's experimental licensing database that are related to such operations. Most of these authorizations were granted for each experiment or type of equipment or to allow operation at a particular site.

Motorola believes, however, 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. Consequently, by this application Motorola seeks a blanket experimental license—subject to the noninterference and other conditions described below—to test, demonstrate and operate prototype products on a variety of bands and at temporary locations throughout the United States, as described below. As such, this request is fully consistent with the FCC's recent 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, FCC 98-283, released Oct. 27, 1998 ("ERS Streamlining Order").

Motorola submits that the public interest, necessity and convenience will be served by the grant of the subject application. As noted at paragraph 12 of the FCC's ERS Streamlining Order, such a grant would enhance the company's ability to obtain information needed to ensure that the products it is designing will accommodate and promote new technologies and services. It will also allow Motorola to consolidate various experimental authorizations, thereby reducing the administrative burdens imposed upon the company and the Commission associated with the processing of specific initial applications and requests or their renewals.

II. RESPONSES TO INDIVIDUAL QUESTIONS ON FCC FORM 442

Item 4(A): Frequencies

By this application, Motorola seeks experimental authority to operate in the bands 806-928 MHz, 929-932 MHz, 940-941 MHz, 1850-2200, 2290-2700 MHz, 5.15-5.25 GHz, 5.725-5.825 GHz, 27.350-28.350 GHz, 29.1-29.25 GHz and 31.0-31.3 GHz. Operation in these bands will be coordinated with licensees in accordance with FCC requirements and as described further below.

Item 4(B) and (C): Transmitter Power

<u>Band</u>	<u>Power watts (ERP)</u>
806-849	500
824-851	500
851-894	500
896-902	500
902-928	200
929-932	3.5K
940-941	3.5K
1850-1910 FX	1K
1850-1910 MO	1.22
1910-1930	*
1930-1990 FX	1K
1930-1990 MO	1.22
1990-2200	2K
2290-2500	2K
2500-2700	2K
5.15-5.25 GHz	10
5.725-5.825 GHz	10
27.350-28.350 GHz	2K
29.100-29.250 GHz	2K
31.00-31.30 GHz	2K

*Operation in the 1910-1930 MHz band will comply with the power requirements under Part 15 governing low power, unlicensed PCS devices. See Public Notice, "Experimental Licenses in the 1910-1930 MHz Band," Mimeo No. 61800, released March 1, 1996 (allowing experimental testing in this band only for low-power, unlicensed PCS devices) ("Public Notice").

Item 4(D): "Mean" or "Peak."

All power limits set forth in Items 4(B) and 4(C) are "Peak." Operation in the 1910-1930 MHz band shall comply with the requirements under Part 15 governing low-power, unlicensed PCS devices. See Public Notice.

Item 4(E): Emission

Motorola seeks to employ various modes of modulation, bandwidth and data rates. Nevertheless, none of these modes of operation would extend beyond the band limits set forth under Item 4(A) above nor exceed the maximum emissions envelope established in the existing authorization.

Item 4(F) and (G): Modulating Signal and Necessary Bandwidth

See Item 4(E) above

Item 5(b): Location of Proposed Operation

Motorola proposes to conduct its experimental operations primarily within 80 kilometers of its research and development sites at Ft. Worth, Texas, and Arlington Heights, Illinois, but it also seeks authority to conduct experimental operations at other locations within the United States. As it cannot at this time determine the specific locations of such tests, it seeks blanket authority to operate nationwide (within the United States and its territories). Specifically, Motorola seeks authority to test, demonstrate, and 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; (3) at trade shows or non-residential exhibitions; and (4) at non-residential business, commercial, industrial, scientific or medical locations during the design, development and pre-production stages. Indeed, these operations would be consistent with the requirements set forth in Section 2.803 of the Commission's marketing rules. See 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 mobile devices at certain end user locations, including residential locations. It submits that 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—typically involve such usage and therefore should be tested at user locations. Motorola would not operate any base stations at residential locations or environments, however. Nor does it propose to market, sell, or lease any prototype equipment to end users. 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.

Moreover, upon request and consistent with the ERS Streamlining Order, Motorola will 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.

Items 6, 15: Antenna Information

Motorola will employ a number of antennas with varied direction, beamwidth and polarization depending on the type and frequency of the operation under test. The antennas will be located either at ground level or mounted on existing buildings or antenna structures. With respect to any tower structure, Motorola certifies that it will not increase the height of the structure. In sum, Motorola certifies that it will restrict construction under its experimental authorization to ensure compliance with FCC and Federal Aviation Administration ("FAA") antenna requirements.

Item 10: Narrative Statement

See discussion under "Introduction and Background" above.

Item 13: Equipment to Be Installed

The section above entitled "Introduction and Background" describes the equipment to be installed under the authority requested in this application. Motorola seeks 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 over sixty 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 expects that it will be able to conduct its experimentation with 10 or fewer base stations and 200 or fewer mobiles per experiment/location and that it would not employ more than a total of 50 base stations and 750 mobiles overall for *all* of its experiments combined conducted under the requested authority. In other words, 50 base stations and 750 mobiles reflects the maximum number of unapproved or unlicensed units that would be in operation at any given time under this authorization. As required, Motorola would seek separate and specific authority if more units are needed to conduct a particular experiment.

Item 19: Owner and Operator of Equipment

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 unintentional radiators for, among other things, compliance testing, demonstration at trade shows and other exhibitions with appropriate notices displayed, and evaluation of product performance and customer acceptability at the manufacturer's facilities or at certain non-residential sites during the developmental, design and pre-production stages. See Marketing Rule Revisions, § 2.803; 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. 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 (1998). Accordingly, Motorola seeks an experimental 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 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. It will also advise entities that operation is subject to the condition that the equipment may not cause harmful interference. Specifically, Motorola proposes to label the equipment conspicuously 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 canceled at any time. Operation is subject to the following two conditions (1) this device may not cause harmful interference and (2) this device must accept any interference received including interference that may cause undesired operation.

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. First, Motorola plans to coordinate its operations with existing licensees in the areas of proposed operation. Indeed, it expects that many of its experiments will be conducted on behalf of and with the cooperation of existing licensees. Second, Motorola intends to monitor use of the relevant frequencies before commencing transmissions, and it will not operate if the frequencies are in use.

Item 20: Contacts for Inquiries

Technical Contacts:		Legal Contacts:
In Fort Worth:	In Arlington Heights:	David E. Hilliard, Esq. (dhilliard@wrf.com)
Ronald C. Johnson	John D. Toone	Kurt E. DeSoto, Esq. (kdesoto@wrf.com)
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III. CONCLUSION

Motorola submits that grant of this application would serve the public interest, convenience and necessity, as it would allow Motorola to enhance its ability to develop innovative products to support the information needs of the public.