

Motorola Solutions, Inc.
Application on FCC Form 442
for an Experimental License
OET File No. 0337-EX-PL-2011

NARRATIVE STATEMENT

Pursuant to Sections 5.51 and 5.53 of the Commission's rules, 47 C.F.R. §§ 5.51, 5.53 (2010), Motorola Solutions, Inc., hereby respectfully requests an experimental license for a period of one year beginning August 15, 2011, to operate in the 758-768/788-798 MHz band for the purpose of conducting tests in connection with the development of Long Term Evolution (LTE) broadband equipment for the 700 MHz band. The testing will be conducted from up to three sites at and near the offices of Motorola Solutions in Schaumburg, Illinois.

The submission of this application also serves to replace and extend Motorola Solutions's existing special temporary authority ("STA") for this experimentation, granted under File No. 0023-EX-ST-2011 and issued under call sign WE9XRU, which is currently scheduled to expire on August 15, 2011.

A letter of concurrence from the Public Safety Spectrum Trust ("PSST") for the proposed operation on its portion of the spectrum is attached. Also, a letter of concurrence has been requested from the Illinois State Police, which is authorized to operate certain narrowband vehicular repeaters under Part 90 of the FCC's rules in the broadband public safety spectrum, pending further Commission action on the relocation of its operations to conform to the FCC's revised 700 MHz bandplan.

The following provides more details for this request.

A. Purpose of Operation and Need for Experimental License:

Motorola Solutions is a leading manufacturer of mobile radio equipment for the public safety and homeland security community and is continually engaged in the design and development of new and innovative communications equipment. The experimental authority requested herein will allow the company to test and demonstrate the performance and functionality of prototype devices designed to support the needs of the public safety and homeland security community.

Specifically, Motorola Solutions proposes to conduct testing of prototype equipment at up to three sites in and around its offices located at 1301 East Algonquin Road in Schaumburg, Illinois. Grant of an experimental license will allow Motorola Solutions to test and demonstrate prototype equipment to enhance the company's efforts to design and develop its equipment to meet the communications needs of potential users.

B. Location of Proposed Operation:

Motorola Solutions proposes to conduct the proposed tests using three fixed base station transmitters and antennas located in and around its offices in Schaumburg, Illinois. The addresses and approximate coordinates (in Datum: NAD83) of the three sites are:

1. **Offices of Motorola Solutions, Inc.**
1301 East Algonquin Road
Schaumburg, Illinois 60196
42° 02' 39" North Latitude
88° 02' 36" West Longitude
2. **Harris Bank Building**
800 East Northwest Highway
Palatine, Illinois 60038
42° 06' 11" North Latitude
88° 01' 24" West Longitude
3. **Plum Grove Road Tower**
1350 Plum Grove Road
Rolling Meadows, Illinois 60067
42° 05' 09" North Latitude
88° 02' 42" West Longitude

C. Technical Specifications:

1. Frequencies Desired

Motorola Solutions requests authorization to operate in the band 758-768/788-798 MHz. This band encompasses both the 758-763/788-793 MHz band known as the upper 700 MHz D block, which has not yet been licensed for regular operation, and the 763-768/793-798 MHz public safety block licensed on a nationwide basis to the PSST.

2. Effective Radiated Power

All power levels will comply with the limits set forth in the FCC's rules, including those relating to human exposure to radiation. The mobile/portable units to be deployed are configured to operate at an average power level of 250 mW effective radiated power ("ERP") and a peak power level of 2.5 Watts ERP. The base station will be configured to operate at an average power level of 5W ERP and a peak power level of 125 Watts ERP. Motorola Solutions will vary the actual powers within the maximums noted above to test coverage results.

In addition, Motorola Solutions will evaluate environmental considerations to ensure compliance with Section 1.1306 of the FCC's rules, 47 C.F.R. § 1.1306 (2009), and, in particular, the human exposure requirements set forth in FCC OET Bulletin No. 65.

3. Modulation and Emissions

Motorola Solutions proposes to operate using OFDM modulation. The primary emission designators are 5M0G7D, 5M0W7W, 5M0G2D, 5M0D7D, 10M0G7D, 10M0W7W, 10M0G2D, and 10M0D7D. Other emission modes may be utilized, but in no event will the emissions extend beyond the frequency bands requested.

4. Antenna Information

The fixed base station transmitter antenna will be located outdoors at the three sites specified above. The antenna elevation above ground level will be 85 feet at sites 1 and 2 and 76 feet at site 3. The mobile/portable antennas will be installed at a height not greater than 6 meters above ground when used outdoors or at various locations as needed for testing when used indoors. No antennas will be mounted in a fashion that will require approval under FAA and FCC rules and regulations.

5. Equipment To Be Used

Motorola Solutions expects that it will be able to conduct its demonstration with a single base station and up to twenty mobile/portable units at each site. Moreover, Motorola Solutions will limit the power, area of operation, and transmitting times to the minimum necessary to evaluate the equipment.

D. Protection Against Causing Interference:

As noted above, Motorola Solutions has requested authority to operate in the 758-768/788-798 MHz band. This band encompasses both the 758-763/788-793 MHz band known as the upper 700 MHz D block, which has not yet been licensed for regular operation, and the 763-768/793-798 MHz public safety block licensed on a nationwide basis to the PSST. A letter of concurrence from the PSST regarding operation on the PSST portion of the spectrum is attached. No concurrence is necessary or possible on the D block portion because there is no regular licensee of that spectrum.

Motorola Solutions has analyzed information from the FCC's license databases and has determined that the proposed operation would not interfere with, or create a significant potential for interference with, any public safety operations in the 700 MHz band. The State of Illinois STARCOM21 system utilizes a portion of the PSST spectrum block for operation of vehicular repeaters, pursuant to a waiver that allows it

to continue to operate under the former 700 MHz bandplan. Based on discussions with the State, however, the operations proposed under this application are not expected to cause interference to the State's system because vehicular repeaters are seldom needed for coverage in the areas where testing will be conducted. No reports of interference have been received as a result of Motorola Solutions' testing over the past five months with parameters identical to those being requested in this application. Motorola Solutions is coordinating with the Illinois State Police STARCOM21 System Administrator to obtain a letter of concurrence on extending the testing and will provide that concurrence as soon as it is received.

Motorola Solutions also searched the Commission TV database and determined that the proposed operation would not interfere with any authorized Low Power TV stations in the area.

E. Restrictions on Operation:

Motorola Solutions is not seeking authority to perform a market study under this Experimental License. Moreover, no fees will be charged to entities using the equipment during this test. After the test is completed, Motorola Solutions will recall and recover all devices that do not comply with FCC regulations.

Motorola Solutions also recognizes that the operation of any equipment under experimental authority must not cause harmful interference to authorized facilities. Should interference occur, Motorola Solutions will take immediate steps to resolve the interference, including if necessary arranging for the discontinuance of operation.

In addition, Motorola Solutions will advise entities using the equipment that permission to operate has been granted under experimental authority issued to Motorola Solutions, that such operation is strictly temporary, and that the equipment may not cause harmful interference. Entities will also be advised in accordance with Section 2.803 of the Commission's rules, 47 C.F.R. §2.803 (2009), that any unapproved devices have not been authorized as required by the rules of the FCC and are not being offered for sale or lease, or sold or leased, until authorization is obtained.

F. Public Interest Statement:

Motorola Solutions submits that issuance of an Experimental License as requested is in the public interest, convenience, and necessity. Grant of an Experimental License will permit Motorola Solutions to develop innovative equipment that will accommodate the communications needs of the public safety and homeland security community.

G. Contact Information:

For questions about this application, please contact:

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In the unlikely event interference concerns should arise during the period of authorization for this license, please contact:

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Senior Director Global Spectrum Strategy
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July 24, 2011

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Room TWA325
Washington, DC 20554

Re: Application of Motorola Solutions for Temporary Spectrum Use

Dear Ms. Dortch:

The Public Safety Spectrum Trust ("PSST") hereby provides its consent to Motorola Solutions' application for an Experimental License to authorize testing of Long Term Evolution ("LTE") equipment in the PSST's 700 MHz band spectrum in and around the Motorola Solutions headquarters in Schaumburg, Illinois as described in more detail below. The PSST understands that the test operation planned is a continuation of testing previously authorized under Experimental STA WE9XRU, which expires on August 15, 2011, and would conform to the following parameters:

1. Operation will include three base transmit sites, one at the Motorola Solutions Schaumburg facility, one in nearby Palatine, Illinois and one in nearby Rolling Meadows, Illinois. Equipment would include a base station and associated antenna located at these facilities, along-with a small number of portable units.
2. Motorola Solutions will request authority from the FCC to operate over the 758-768/788-798 MHz bands. This encompasses both the 763-768/793-798 MHz bands, which are currently licensed on a nationwide basis to the PSST as part of the 700 MHz Public Safety Broadband License, and the 758-763/788-793 MHz bands known as the Upper 700 MHz D Block, which has not yet been licensed for regular operation.
3. Motorola Solutions plans to conduct the testing at all sites for approximately 12 months following grant of the Experimental License. All operations would be on a secondary, noninterference basis, and Motorola Solutions has indicated that it would adjust or discontinue testing as needed.
4. We understand that Motorola Solutions has analyzed information from the FCC's license databases and has determined that the proposed operation would not interfere or create a significant potential for interference with any public safety

operations in the 700 MHz band. Motorola Solutions has also told us the State of Illinois STARCOM21 system utilizes a portion of the PSST spectrum block for operation of vehicular repeaters, pursuant to a waiver that allows continued operation under the former 700 MHz bandplan. However, Motorola Solutions indicated that previous discussions with the State indicate the proposed experimental testing is not expected to cause interference to the system because vehicular repeaters are seldom needed for coverage in this area where testing will be conducted. Motorola Solutions also advised that a letter of concurrence was provided from the Illinois State Police STARCOM21 System Administrator for the testing authorized under the previous FCC Experimental STA, that no reports of interference have been received as a result of its testing over the past five months with parameters identical to those being requested in the current application for Experimental License and that it is coordinating with the Illinois State Police STARCOM21 System Administrator to obtain concurrence to extend the testing.

Given the above information, the PSST concurs with Motorola Solutions' proposed operation on certain frequencies currently licensed to the PSST as part of the 700 MHz Public Safety Broadband License for purposes of testing LTE equipment in and around the Motorola Solutions facility in Schaumburg, Illinois. As you are aware, decisions on the permanent use of the adjacent Upper 700 MHz D Block spectrum are still pending at the FCC. The PSST takes no position as to the Motorola Solutions request regarding use of the D Block spectrum.

This consent is subject to the PSST's ongoing ability to monitor any operations and use of the PSST's licensed spectrum. In addition, this consent only applies to the twelve-month period discussed in paragraph 3. Motorola Solutions will need to seek another consent letter from the PSST if Motorola Solutions requests an extension of the Experimental License.

Respectfully submitted,



Chief Harlin R. McEwen
Chairman
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