

**EXHIBIT A**

**NARRATIVE STATEMENT**

Pursuant to Section 5.3(d) and (f) and Section 5.61 of the Commission's rules, 47 C.F.R. §§ 5.3(d), (f), 5.61 (2009), Motorola Solutions, Inc., hereby respectfully requests Special Temporary Authority ("STA") beginning **February 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.

Attached for the staff's reference is a letter of concurrence from the Public Safety Spectrum Trust ("PSST") for the proposed operation on its portion of the spectrum. Also attached is a letter of concurrence 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 STA:**

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. Motorola Solutions respectfully requests that the FCC grant the STA for the period **February 15, 2011 through August 14, 2011**.

Grant of an STA 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 is attached from the PSST regarding operation on the PSST portion of the spectrum. 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 STA request 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. Attached

is a letter of concurrence from the Illinois State Police STARCOM21 System Administrator in that regard.

Motorola Solutions also searched the Commission TV database and determined that the proposed operation would not interference 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 STA. 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, 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 STA as requested is in the public interest, convenience, and necessity. Grant of an STA 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:

Kurt DeSoto, Counsel to Motorola Solutions, Inc.  
Wiley Rein LLP  
1776 K Street, N.W.  
Washington, DC 20006  
Voice: (202) 719-7235  
Facsimile: (202) 719-7207  
[kdesoto@wileyrein.com](mailto:kdesoto@wileyrein.com)

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

Stu Overby  
Senior Director Global Spectrum Strategy  
Motorola Solutions, Inc.  
1301 E. Algonquin Rd.  
Schaumburg, IL 60196  
Telephone: (847-421-2952  
[Stu.overby@motorolasolutions.com](mailto:Stu.overby@motorolasolutions.com)



November 23, 2010

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

**Re: Application of Motorola for Temporary Spectrum Use**

Dear Ms. Dortch:

The Public Safety Spectrum Trust ("PSST") hereby provides its consent to Motorola's application for experimental special temporary authority ("Experimental STA") to authorize testing of Long Term Evolution ("LTE") equipment in the PSST's 700 MHz band spectrum in and around the Motorola headquarters in Schaumburg, Illinois as described in more detail below. The PSST understands that the test operation planned would conform to the following parameters:

- 1) Operation will include three base transmit sites, one at the Motorola 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 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 plans to conduct the testing at all sites for approximately 6 months following grant of the Experimental STA. All operations would be on a secondary, non-interference basis, and Motorola has indicated that it would adjust or discontinue testing as needed.
- 4) We understand that Motorola 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 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 indicated that 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 also provided the PSST with a copy of a letter of concurrence dated November 8, 2010 from the Illinois State Police STARCOM21 System Administrator.

Given the above information, the PSST concurs with Motorola's 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 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 Motorola's 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 six-month period discussed in paragraph 3. Motorola will need to seek another consent letter from the PSST if Motorola requests an extension of the Experimental STA.

Respectfully submitted,



Chief Harlin R. McEwen  
Chairman  
Public Safety Spectrum Trust Corporation  
(607) 227-1664  
[chiefhrm@pubsaf.com](mailto:chiefhrm@pubsaf.com)



ILLINOIS STATE POLICE  
*Office of the Director*

Pat Quinn  
*Governor*

November 8, 2010

Jonathon E. Monken  
*Acting Director*

Mr. Rich O'Herron  
Motorola Inc.  
1301 East Algonquin Road  
Schaumburg, IL

Mr. O'Herron:

The State of Illinois hereby provides this letter of concurrence in support of Motorola's proposed application for experimental special temporary authority ("Experimental STA") to authorize operation in the 700 MHz band spectrum for testing of Long Term Evolution ("LTE") broadband equipment in the Schaumburg and Palatine, Illinois area. The State understands the testing would conform to the following parameters:

- 1) LTE base stations will be located on the Motorola campus at 1301 East Algonquin Road, Schaumburg, IL; on the Harris Bank building at 800 East Northwest Highway, Palatine, IL; and at a communications tower located at 1350 Plum Grove Road, Rolling Meadows, IL. Mobile or portable LTE units would operate around these base sites. We understand the actual area of coverage is one of the parameters that will be determined by the proposed testing.
- 2) Motorola will request authority from the FCC to operate over the 758-768/788-798 MHz band. This encompasses both the 763-768 /793-798 MHz bands, which are currently licensed on a nationwide basis to Public Safety Spectrum Trust 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, but is being sought by public safety in discussions with Congress.
- 3) Motorola will request authority for experimental operation for a period of six months from the Experimental STA grant. It is possible that Motorola would request extending that experimental authority. Any future extension would depend on whether regular public safety or commercial deployment has begun in the spectrum by the time the experimental STA expires.

The spectrum proposed for experimental testing overlaps a segment of spectrum currently used by the State Police for vehicular repeaters that relay signals between portable handheld radios and the system infrastructure in some areas of the state. This spectrum overlap occurs because the FCC modified the 700 MHz band-plan after deployment of the Illinois STARCOM21 system was started. As a result, the current public safety broadband spectrum where the proposed LTE testing would be conducted overlaps some for the spectrum designated for narrowband operations under the previous plan, until the FCC defines additional steps concerning funding the transition of its operations to conform to the revised band-plan.

The State understands that Motorola has analyzed the potential for interference to the 700 MHz band Illinois STARCOM21 system from the proposed testing and has concluded that interference is unlikely given the specifics of the areas and frequencies involved. Specifically, Motorola has noted that the spectrum overlap for the proposed testing occurs on a portion of the spectrum used for vehicular repeaters to transmit to the portable radios. Therefore, any potential conflict would only be in areas where the vehicular repeaters are needed. There is no overlap on the portions of the spectrum used for communications directly between mobiles/portables and the system base stations within interference range of the proposed testing. While vehicular repeaters are a necessary part of the STARCOM21 system in some areas of the state, they are seldom needed for coverage in the vicinity of Schaumburg and Palatine. In those areas, the STARCOM21 system provides sufficient coverage for direct communications between portable radios and the system infrastructure without the need for vehicular repeaters. Therefore, interference to state operations from the proposed testing is unlikely.

We understand from Motorola's analysis that in the event vehicular repeaters were operated within approximately one mile of the proposed Schaumburg, Palatine, or Rolling Meadows LTE base sites, some interference may be experienced. However, as noted above, use of the vehicular repeaters in these particular areas is unlikely. We are also aware that low power LTE subscriber units will also be a part of the testing. However, the close proximity of vehicular repeaters to their associated narrowband portable radios should minimize the chance of potential interference from any LTE mobile/portable operations, even if vehicular repeaters were operated in the area.

We have discussed these issues with Motorola and concur interference is unlikely. However, in the event interference does occur, we expect Motorola to take immediate steps to eliminate the interference, and Motorola representatives have agreed to do so. Notably, Motorola operates the STARCOM21 system for the State of Illinois subject to prescribed quality requirements. As a result, we are confident that any unexpected conflicts that do arise between the proposed experimental testing and use of the STARCOM1 system will be addressed immediately.

In view of the above, the State of Illinois concurs with Motorola's proposed experimental STA for the Schaumburg and Palatine, Illinois areas to test LTE broadband technology in the 700 MHz band under the parameters noted above.

Respectfully,



Daniel C. Meseke  
STARCOM21 System Administrator  
Illinois State Police  
Communications Services Bureau