

Nokia Siemens Networks US LLC
Request for STA
ELS File No. 0420-EX-ST-2011

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), 5.53 (2010), Nokia Siemens Networks US LLC ("NSN") hereby respectfully requests a special temporary authority ("STA"), beginning **July 18, 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") equipment. The tests will be conducted from sites at and near the offices of NSN in Arlington Heights, Illinois, as identified below.

The following information is provided in support of this application:

A. Purpose of Operation and Need for STA:

NSN is a leading manufacturer of mobile broadband radio equipment, and the grant of the application will allow NSN 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:

NSN proposes to conduct the proposed tests using fixed base station transmitters and antennas located in and around its offices in Arlington Heights, Illinois, a limited number of lower height pico sites and associated mobiles and portables. The addresses and approximate coordinates (in NAD83 Datum) of the base station sites are:

Offices of NSN 1441 W Shure Drive Arlington Heights, IL 60004 42° 08' 08" North Latitude 87° 59' 56" West Longitude	Boeger Tower 129 Boeger Road Arlington Heights, IL 60004 42° 08' 14" North Latitude 87° 58' 57" West Longitude
Syverson Tower 2301 Rand Road Palatine, IL 60038 42° 09' 12" North Latitude 88° 02' 11" West Longitude	Downtown Arlington Heights 105 Northwest Highway Arlington Heights, IL 60014 42° 05' 04" North Latitude 87° 58' 53" West Longitude

C. Technical Specifications:

1. Frequencies Desired

NSN 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. Attached 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 STARCOM21 System Administrator for the proposed operation on its portion of the spectrum. NSN plans to advise the PSST and the Illinois State Police when it commences operations and will request additional concurrences as needed to operate under the STA as requested in this application.

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 a peak power level of less than 125 Watts ERP. The pico sites will operate at a power level between 2 and 5 Watts ERP. NSN will vary the actual powers within the maximums noted above to test coverage results.

In addition, NSN will evaluate environmental considerations to ensure compliance with Section 1.1306 of the FCC’s rules, 47 C.F.R. § 1.1306 (2010), and, in particular, the human exposure requirements set forth in FCC OET Bulletin No. 65.

3. Modulation and Emissions

NSN 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 sites specified above. The antenna elevation above ground level will not exceed 45 meter. The antennas for pico sites will be installed at a height not greater than 7 meters above ground when used outdoors. The mobile and portable units for most part will be hand held. In case of rack mounting, subscriber units will be not be installed at heights over 3 meters. No antennas will be mounted in a fashion that will require approval under FAA and FCC rules and regulations.

5. Equipment To Be Used

NSN will conduct its demonstrations at each of sites listed above with a single base station, up to twelve pico sites within one kilometer of each site, and up to twenty mobile/portable units within ten kilometer radius of each site. Moreover, NSN will limit the power, area of operation, and transmitting times to the minimum necessary to evaluate the equipment.

D. Protection Against Interference:

As noted above, NSN has requested authority to operate in the 758-768/788-798 MHz band. NSN will coordinate with any licensees, as required by FCC rules, before commencing operations.

NSN 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 band plan. 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 for the proposed operation on its portion of the spectrum.

NSN 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.

Moreover, NSN recognizes that the operation of any equipment under experimental authority must not cause harmful interference to authorized facilities, including the facilities of other experimental licensees in this band. Should interference occur, NSN will take immediate steps to resolve the interference, including if necessary arranging for the discontinuance of operation.

E. Restrictions on Operation:

NSN 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, NSN will recall and recover all devices that do not comply with FCC regulations.

In addition, NSN will advise entities using the equipment that permission to operate has been granted under experimental authority issued to Nokia Siemens Networks USA LLC, 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 (2010), 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:

NSN submits that issuance of an experimental license as requested is in the public interest, convenience, and necessity. Grant of the license will permit NSN to develop innovative equipment that will accommodate the communications needs of users

G. Contact Information:

For questions about this application, or in the unlikely event interference concerns should arise during the period of authorization, please contact:

Prempal Singh
Operations Manager New Product Introduction
Nokia Siemens Networks US LLC
1501 W Shure Drive
Arlington Heights, IL 60004
Telephone: (847) 722-7683
{ HYPERLINK "mailto:Prempal.singh@nsn.com" }



June 22, 2011

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

Re: Application of Nokia Siemens Networks for Temporary Spectrum Use

Dear Ms. Dortch:

The Public Safety Spectrum Trust ("PSST") hereby provides its consent to the application of Nokia Siemens Networks (NSN) 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 the vicinity of the NSN facilities at Arlington Heights Illinois as described in more detail below. The PSST understands that the test operation planned would conform to the following parameters:

- 1) LTE base stations will be located on the NSN campus at 1441 West Shure Drive, Arlington Heights, IL, at 11 South Dunton Avenue, Arlington Heights, IL, and at communications towers located at 129 Boeger Road, Arlington Heights, IL and 2301 Rand Road, Palatine, IL. In addition, up to nine LTE low power "pico-sites" would be located in the downtown Arlington Heights area. Mobile or portable LTE units would operate around these base sites and pico-sites. The actual area of coverage is one of the parameters that will be determined by the proposed testing.
- 2) NSN 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) Operation will begin as soon as the FCC grants the requested Experimental STA and will continue until September 30, 2011, the expiration of the current concurrence from the Illinois State Police. All operations would be on a secondary, non-interference basis, and NSN has indicated that it would adjust or discontinue testing as needed.
- 4) We understand that NSN 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. NSN 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, NSN has explained 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. NSN also provided the PSST with a copy of a letter of concurrence to Motorola Solutions, Inc. dated June 2, 2011, from the Illinois State Police STARCOM21 System Administrator. This letter explains that the letter of concurrence is transferrable to NSN.

Given the above information, the PSST concurs with NSN'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 NSN facilities in Arlington Heights, 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 NSN'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 period discussed in paragraph 3. NSN will need to seek another consent letter from the PSST if NSN 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



ILLINOIS STATE POLICE
Division of Operations

Pat Quinn
Governor

June 2, 2011

Hiram Grau
Director

Mr. Rich O'Herron
Motorola Solutions, Inc.
1301 East Algonquin Road
Schaumburg, Illinois 60196

Dear Mr. O'Herron:

The State of Illinois hereby provides this letter of concurrence in support of the Motorola Solutions-Networks Proposed application for experimental special temporary authority ("Experimental STA") to authorize operation in the 700MHz band spectrum for testing of Long Term Evolution ("LTE") broadband equipment in the Arlington Heights and Palatine, Illinois area.

The concurrence provided by this correspondence expires on September 30, 2011. An extension for a defined time period may be requested in writing by Motorola Solutions-Networks prior to September 30, 2011.

This concurrence is transferrable to Nokia-Siemens Networks under the same conditions stated herein when and if the planned sale transaction of Motorola Solutions-Networks to Nokia Siemens Networks is consummated during the period covered by this concurrence. In the event such consummation of the planned transaction occurs, Nokia Siemens Networks would assume the responsibilities set forth below for Motorola Solutions-Networks. The State understands this in no way impacts the previous concurrence the State provided to Motorola on November 8, 2010 for LTE testing because the Motorola Solutions, Inc. public safety business conducting the testing under that concurrence is NOT part of the planned sale transaction to Nokia Siemens Networks.

The State understands the proposed testing would conform to the following parameters:

- 1) LTE base stations will be located on the Motorola Solutions-Networks campus at 1441 West Shure Drive, Arlington Heights, IL, at 11 South Dunton Avenue, Arlington Heights, IL, and at communications towers located at 129 Boeger Road, Arlington Heights, IL and 2301 Rand Road, Palatine, IL. In addition, up to nine LTE low power "pico-sites" would be located in the downtown Arlington Heights area. Mobile or portable LTE units would operate around these base sites and pico-sites. We understand the actual area of coverage is one of the parameters that will be determined by the proposed testing.
- 2) Motorola Solutions-Networks 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 the 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 Solutions-Networks will request authority for experimental operation for a period of 6 months from the Experimental STA grant. It is possible that Motorola Solutions-Networks 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 of 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 Solutions-Networks 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 Solutions-Networks 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 Arlington Heights 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 the Motorola Solutions-Networks analysis that in the event vehicular repeaters were operated within approximately 1 mile of the proposed Arlington Heights or Palatine LTE base sites, some interference may be experienced. However, as noted above, use of vehicular repeaters in these particular areas is unlikely. We are also aware that low power LTE "pico-sites" and 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 low power "pico-sites" or mobile/portable operations, even if vehicular repeaters were operated in the area.

We have discussed these issues with Motorola Solutions, Inc. and concur interference is unlikely. However, in the event interference does occur, we expect Motorola Solutions-Networks or its planned transferee Nokia Siemens Networks, as applicable, to take immediate steps to eliminate the interference. Motorola Solutions-Networks representatives have agreed to do so. Notably, Motorola Solutions, Inc. operates the STARCOM21 system for the State of Illinois subject to proscribed quality requirements. As a result, we are confident that any unexpected conflicts that do arise between the proposed experimental testing and use of the STARCOM21 system will be addressed immediately. Furthermore, Motorola Solutions-Networks has provided the names and contact information of individuals responsible for such a system shutoff should it become necessary.

Mr. Rich O'Herron
June 2, 2011

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In view of the above, the State of Illinois concurs with Motorola Solutions-Networks proposed experimental STA for the Arlington Heights and Palatine, Illinois areas to test LTE broadband technology in the 700 MHz band under the parameters noted above.

Respectfully,

A handwritten signature in black ink, appearing to read "Daniel C. Meseke". The signature is fluid and cursive, with the first name "Daniel" and last name "Meseke" being clearly distinguishable.

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