

**Nokia Siemens Networks US LLC  
Request for Experimental License  
ELS File No. 0317-EX-PL-2012**

**NARRATIVE STATEMENT**

Pursuant to Sections 5.51 and 5.53 of the Commission's rules, 47 C.F.R. §§ 5.51, 5.53 (2010), Nokia Siemens Networks US LLC ("NSN") hereby respectfully requests an experimental license for a six month period from **September 1, 2012, to February 28, 2013**, so that it may continue to conduct tests in the 758-768/788-798 MHz band 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.

Please note that this request is identical to, and serves to replace, NSN's current special temporary authority ("STA") granted under File No. 0168-EX-ST-2012 and call sign WF9XAW, which is currently scheduled to expire on September 1, 2012. As provided under Section 5.61(b) of the Commission's rules, 47 C.F.R. § 5.61(b)(2010), this application is therefore also intended to serve as a continuance or extension of NSN's authority to operate as permitted under its STA pending action on the instant application.

NSN notes that its has asked for the authority requested herein to commence as of the date its current STA is scheduled to expire and, coincidentally, the same date that FirstNet is scheduled to assume responsibility for overseeing the use of certain 700 MHz spectrum. NSN recognizes that it must coordinate its operations with FirstNet once it becomes fully functional. In the meantime, however, NSN requires an extension of its authority so that it may continue to test, evaluate and demonstrate prototype equipment that will accommodate the communications needs of users.

NSN also emphasizes that it is not seeking authority to conduct market studies or provide communications services under the requested experimental authority. Nor does it propose to market, sell, or lease prototype equipment to end users in conjunction with this test. The participants in the test will be advised that operation is being conducted under an experimental authority issued to NSN and is temporary. In addition, no fees will be charged to entities using the equipment during this test. After the experimentation ceases, NSN will recall and recover all devices that do not comply with FCC regulations.

The following additional information is provided in support of this request:

**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:

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

**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. 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 plans to advise the Illinois State Police when it commences operations and will request additional concurrences as needed to operate 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 meters. 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 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 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. Attached is a letter of concurrence from the Illinois State Police STARCOM21 System Administrator for the proposed operation on its portion of the spectrum. As noted above, NSN also recognizes that it must coordinate its operations with FirstNet once it becomes fully functional.

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:

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Operations Manager New Product Introduction  
Nokia Siemens Networks US LLC  
1501 West Shure Drive  
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**ILLINOIS STATE POLICE**  
*Division of Operations*

Pat Quinn  
*Governor*

May 14, 2012

Hiram Grau  
*Director*

Mr. Jim Krammen  
Governmental Affairs  
Network Systems Product Management  
Nokia Siemens Networks  
1501 West Shure Drive  
Arlington Heights, Illinois 60004

Dear Mr. Krammen:

I am in receipt of your correspondence on May 5, 2012, in which you requested an extension of the concurrence provided by the Illinois State Police in support of the experimental use of the public safety broadband block in the Arlington Heights/Palatine area of northeastern Illinois for continued solution development.

In response to your request, the state of Illinois hereby provides this letter of concurrence in support of Nokia Siemens' application for extension of the experimental STA to operate in the 700MHz public safety broadband block for testing of LTE broadband equipment in the aforementioned area. This concurrence is granted with the understanding that the Nokia Siemens continues to perform the testing in accordance with the parameters identified in the State's original correspondence of June 2, 2011.

This concurrence will now expire on February 28, 2013.

Respectfully,

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

cc: Assistant Bureau Chief Gary Cochran  
Mr. Jeff Sexton