

July 17, 2013

Mr. Julius P. Knapp
Chief Engineer
Office of Engineering and Technology
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: *FCC STA File No. 0331-EX-PL-2013*

Dear Mr. Knapp:

Raytheon respectfully requests that FirstNet in conjunction with the Federal Communications Commission ("FCC") allow us to operate in the 700 MHz Public Safety spectrum to demonstrate and test Long Term Evolution ("LTE") equipment and devices at its Downey, California ("Downey") laboratory from August 1, 2013 to July 31, 2014. We specifically seek authority to use the 700 MHz Band 14 spectrum, 763-768/793-798 and 758-763/788-793. The Downey laboratory is located at NL 33-55-42; WL 118-07-01. In addition, we have received the attached letter of concurrence from LA-RICS to use Band 14.

Raytheon has provided specific details of the requested need for the demonstration and use of the 700 MHz Band 14 for a twelve month period in its Form 442 application for experimental radio service (other than broadcast) (FCC File No. 0331-EX-PL-2013). Our demonstration network is installed in the Raytheon Public Safety Regional Technology Center ("RTC") in Downey for use in developing LTE network capabilities and applications to demonstrate to the Los Angeles first responder community the benefits of LTE public safety broadband.

The RTC is also collaborating with academia via the University of California Los Angeles ("UCLA") to ensure that our first responders are provided with an academic testing environment. Our partnership with UCLA is a joint effort to develop LTE capabilities for the future public safety market. Access to the spectrum allows us test capabilities, interoperability with LMR systems and new applications for daily public safety operations.

The demonstration system consists of an Alcatel Lucent ("ALU") Model 9412 Base Station ("eNodeB") that includes a stand-alone simulated evolved packet core ("ePC") and

three transmit receive duplexer units ("TRDUs"). The three sector base station capability will be distributed among outdoor and indoor antennas to provide demonstration coverage internal to the RTC within a 2 km radius of the Downey RTC facility. The planned demonstrations will be performed with small low power user devices, such as the LG G14 LTE USB modem and will be limited to fewer than 30 devices. Raytheon is in negotiations with additional equipment and device manufacturers to test at the Downey RTC facility and will update its special temporary authority ("STA") request in accordance with 47 CFR 5.77(a), as long as the equipment change "does not result in operations inconsistent with any term of the outstanding authorization."

Alcatel Lucent acquired a previous STA for operation at this site that expired on May 2, 2012. Raytheon now seeks a longer term experimental license for continued use of the Downey RTC as a laboratory that will now be multi-vendor inclusive and will provide continued testing of equipment to ensure that our first responders get an interoperable multi-vendor network. The Downey RTC demonstration system will not be used for mission-critical operations or in the delivery of live transmissions in duties to protect life, property or safety. The equipment being used will be limited to a base station with an associated antennae and a small number of portable units, as described above and in our experimental license application.

In addition, Raytheon has analyzed the Information from the FCC ULS database and it has been determined that the proposed Downey RTC demonstration network will not interfere or create a significant potential for interference with any public safety or commercial operations in the 700 MHz band, as there is no other known entity or operation of use of the spectrum that exists near the Downey location at this time. Raytheon seeks grant of use of the 700 MHz Band 14 spectrum via an experimental license for initial period of twelve months, starting August 2013, as allowed for under the FCC's rules. Should further operation be desired past the July 2014 expiration date, Raytheon will seek renewal of the experimental license and a separate concurrence from FirstNet to use the spectrum space.

Raytheon understands that an experimental license only permits shared use of the subject radio frequencies and that it may have to coordinate with other entities licensed for experimental purposes. All experimental operations by Raytheon will be secondary, meaning that they must not cause interference to narrowband or broadband operations authorized on a primary basis, including in the spectrum licensed to FirstNet. Narrowband or broadband operations authorized on a primary basis, including in the spectrum licensed to FirstNet, have no obligation to mitigate any interference that such primary operations may present to the Raytheon experimental operations. In addition, we fully understand that FirstNet has not yet deployed in the geographic area covered by this application. Hence, Raytheon understands that if, during the term of this license, FirstNet or its assigns or lessees, plan to deploy in this area, Raytheon may have to reduce the coverage or power levels of its experimental transmissions or cease them entirely.

The contact information for the designated project manager and “stop-buzzer” contact and in the unlikely event of interference concerns during experimental license period would be directed to:

Daniel De Sollar
Director
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Finally, the sole purpose of creating a multi-vendor environment is to ensure that the public safety community will benefit from state of the art broadband equipment, devices and applications in order to ensure our nation’s first responders have a best in class LTE broadband network. Best in class requires rigorous testing and industry and academia participation, which the Downey laboratory will provide. Thus, we believe that it is in the best interest of public safety and the public interest as a whole to grant Raytheon’s application for the experimental license; as such we seek your concurrence in a letter to the FCC.

If you have any questions regarding this communication, please contact the undersigned.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Daniel C. De Sollar", with a long horizontal flourish extending to the right.

Daniel C. De Sollar
Director,
Raytheon Public Safety Regional Technology Center

CC: Genaro Fullano, FCC
Regina Harrison, NTIA

