

March 19, 2013

Julie Knapp
Chief
Federal Communications Commission
Office of Engineering and Technology
445 12th Street, SW
Washington, DC 20554

RE: STA File Number: 0203-EX-ST-2013 – UPDATED March 13, 2013

Oceus Networks and Space Data Corporation (The DACA Testing Partners) respectfully seek consent from the Federal Communications Commission (FCC) and FirstNet to operate in the 700 MHz band public safety broadband spectrum to demonstrate Long Term Evolution (“LTE”) equipment on a high-altitude aerial platform to provide results to be filed in the FCC’s Deployable Aerial Communications Architecture (DACA) docket on an experimental basis. As described in detail below, the DACA Testing Partners believes that a grant of a special temporary authority will serve not only the interests of the FCC in its DACA proceeding, but also FirstNet, as it considers the use of deployables in its network, and the public writ large.

The proposed project will conform to the following parameters:

- 1) Oceus Networks, on behalf of the DACA Testing Partners, seeks an STA to conduct research trials using the 758-768/788-798 MHz public safety broadband spectrum bands, which are currently licensed on a nationwide basis to FirstNet. Testing will help determine whether the LTE (Long Term Evolution) wireless technology provided by Oceus Networks can operate effectively on a Space Data’s SkySite® platform network, a near space balloon-based telecommunications system. The results of these tests will be filed as ex parte comments in the FCC’s open proceeding on Deployable Aerial Communications Architecture (DACA) to support its evaluation of the potential of deployable platforms to rapidly restoring LTE coverage during the first 72 hours immediately following a disaster that causes outages in terrestrial LTE networks or in areas where terrestrial LTE coverage is unavailable.
- 2) The DACA Testing Partners request an STA to support testing efforts in the March 15 - June 15, 2013 timeframe. The DACA Testing Partners can be flexible with the dates if needed.
- 3) The initial special temporary authorization (STA) granted by the FCC with the consent of the then public safety broadband licensee, Public Safety Spectrum Trust (“PSST”) expired on December 25, 2012. Efforts to complete testing by the end of 2012 stalled. Testing was

suspended when the sole device manufacturer for Band 14 LTE public safety broadband devices, Motorola, required the return of end-user devices it loaned to the DACA Testing Partners. The DACA Testing Partners have since purchased replacement devices from Motorola.

- 4) The operation of the flight qualification testing planned for execution in mid-April will be conducted near Space Data Corporation's headquarters near Chandler, Arizona. The equipment will include one aerial platform provided by Space Data with a payload that will include a portable LTE base station and associated antenna. Oceus Networks is the manufacturer of the base station. The balloon-based platform has a total estimated flight time of 6 hours. During the flight, the base station will transmit in the 700 MHz public safety broadband spectrum for approximately 4 hours. The focus of this test is to ensure that Space Data's command and control link [operating on its licensed 900 MHz LMR channel] can successfully turn on the base station. The DACA Testing Partners seek to conduct one flight test, but if modifications are required may need to conduct additional tests. [See Exhibit 2]
- 5) In the flight qualification testing, no entity in the surrounding area is operating in the 700 MHz public safety broadband band. Actual operations will be limited in time and duration. We have analyzed information in the FCC's license databases and the proposed operation would not interfere or create a significant potential for harmful interference with any public safety operations in the 700 MHz band. We have performed (and passed) Out of Band Interference testing under the inspection of NTIA's Public Safety Communications Research Program (PSCR) to assure no harmful interference will occur to adjacent 700 MHz narrowband systems. PSCR personnel have not expressed concern that the proposed operation would interfere or create a significant potential for interference with any public safety operations in the 700 MHz band. DACA Testing Partners has contacted the City of Glendale, AZ based in the neighboring county. The City of Glendale is licensed to operate legacy 700 MHz narrowband systems in the 700 MHz broadband public safety band. The City of Glendale raised no objections to the test and filed a letter in our STA application to that effect.
- 6) Final testing is planned for mid-May in the presence of NTIA PSCR personnel in Boulder. As with our previous test flight, the base station will transmit in the 700 MHz public safety broadband spectrum band for approximately 4 hours. During the test, performance of the DACA platform and NTIA PSCR Boulder test bed system will be closely monitored. If repeat testing is required, it is expected to occur in late-May to early-June. DACA Testing Partners have contacted ADCOM 911 based in the neighboring county to Boulder, CO. ADCOM 911, a public safety NTIA BTOP grantee, verified to the DACA Testing Partners, that they will not be operating during the time of the trial. ADCOM 911 is also licensed to operate legacy 700 MHz narrowband systems in the 700 MHz broadband public safety band.

ADCOM 911 no longer operates on those narrowband frequencies and filed separate letters in our STA application raising no objections to our test on both grounds. [See Exhibit 2]

- 7) During all test flights we will maintain full control of the transmitter on the payload. This includes an emergency phone number so we can execute the “stop button” immediately upon a report of interference. Doug Sharp, Oceus Networks, is the overall project manager and main point of contact for these tests. He is also the emergency contact, if during the test, the “stop button” must be initiated. His phone number is 720-373-1515 and email is dsharp@oceusnetworks.com.
- 8) This experiment, described above, is for research only, with the results being submitted to FirstNet and FCC to assist in future rulemaking and standards making. It will be very limited in duration. The experiment will not result in any permanent, ongoing network operations.
- 9) Operation of the experiment will not be used in mission-critical operations or in the delivery of live transmissions in duties to protect life, property, or safety.
- 10) **STA Disclaimer:** The DACA Testing Partners understand that this STA will be granted for no more than 92 days requested. This STA will not be renewed. If additional demonstration time is needed, a new STA request will be submitted.
- 11) **Indemnification:** DACA Testing Partners agrees to and hold the First Responder Network Authority (“FirstNet”), NTIA, officers, agents and employees harmless from any liability, loss or damage that may occur from the completion of these tests. DACA Testing Partners certify that they carry an appropriate level of liability insurance coverage, in the unlikely event of a malfunction during the test, to cover any loss, liability claims, or damages.
- 12) **FAA Compliance:** DACA Testing Partners certify that they will comply with all applicable Federal Aviation Administration rules and regulations with regards to the flight of Space Data’s SkySite® platform network that will occur as part of the testing described above.
- 13) **The Few Narrowband Public Safety Operations In 700 MHz Broadband Spectrum Raise No Objections To Our Test:** DACA Testing Partners’ research of the FCC ULS systems identified two public safety entities licensed to operate legacy 700 MHz narrowband systems in the 700 MHz broadband public safety band. DACA Testing Partners have contacted the City of Glendale, Arizona and representatives of Adams County, Colorado. We have confirmed that they are not operating in these bands or their use is for low-power, itinerant communications. They have signed letters of concurrence stating they do not object to these tests. These letters have been filed in the STA application request as exhibits.

Respectfully Submitted,

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