



SPACE-BASED POSITIONING
NAVIGATION & TIMING
NATIONAL ADVISORY BOARD

October 10, 2017

Mr. Doug Smith
CEO Ligado Networks
10802 Parkridge Boulevard
Reston, VA 20191

Dear Mr. Smith,

We appreciated your joining us at the 19th Positioning, Navigation, and Timing (PNT) Advisory Board (PNTAB) meeting in Baltimore on June 28-29, 2017. On July 6, 2017, you wrote a letter to me in my role as 1st Vice Chair. From its tone, it is clear we still have several communications difficulties. We hope that together, and in coordination with the majority of our PNT Board members, we can clarify and resolve them.

We have strong concerns and take issue with various points raised in *Ligado's* recent correspondence to me and to others who are associated with our distinguished group of experts. However, we believe the most constructive way to move forward is to focus on your willingness to provide the Committee with clear up-to-date design information. This will enable us to provide the most informed counsel possible. **To that end, we invite you to speak at our 20th PNTAB meeting being held in Redondo Beach, California, on Wednesday, November 15, 2017.**

Most, if not all, of the technical issues you have raised have been publicly discussed by the PNTAB on numerous occasions over the course of several years. At this upcoming meeting, we would therefore encourage you to specifically describe your implementation plan, with a corresponding test plan addressing the issues we have openly raised. We request you specifically focus on those regarding the potential for interfering with any GPS/GNSS services that operate in the protected Space-to-Earth L band (1559 – 1610 MHz). Included should be all modes of operation and the use of all current and future GNSS signals. Without these specific technical details and corresponding evaluations, we can only conjecture as to what you are really proposing. In particular we must consider the ramifications of them, and any attendant, unacceptable risks to public welfare.

Please recall that the PNTAB has provided many opportunities for you to explain *Ligado's* plans—including those of your predecessor in interest, *LightSquared*. Specifically, since 2011, the Board has invited you and your colleagues to provide at least five presentations. The individuals who provided these presentations have all been treated professionally and with due courtesy by PNTAB membership. The PNT Board is comprised of technical experts; our focus is to provide advice based on deep engineering and related expertise.

As you know, interference to GPS/GNSS can adversely affect numerous safety-of-life systems, other vital national assets, and applications comprising over \$60 billion of annual U.S. productivity benefits. Accordingly, the PNT Advisory Board takes most seriously its responsibility to advise on any possible threats. Commensurate with that commitment, the Board would like to ensure *Ligado* is afforded a robust opportunity to provide information about, and in support of, its proposals. This is the purpose of our invitation to present on November 15.

The PNT Board's Executive Director, James J. Miller, is available to discuss administrative arrangements for your presentation and related matters. We look forward to *Ligado's* presentation.

Sincerely,

Bradford W. Parkinson
1st Vice Chair of the National Space-Based PNT Advisory Board

cc:

Honorable Patrick M. Shanahan, Deputy Secretary of Defense
Honorable Jeffrey A. Rosen, Deputy Secretary of Transportation
Mr. Robert Lightfoot Jr., NASA Acting Administrator
Mr. Harold "Stormy" Martin, Director, PNT National Coordination Office (NCO)
PNT EXCOM Departments and Agencies