U.S. Department
of Transportation
**Federal Aviation
Administration**

800 Independence Ave., S.W.
Washington, D.C. 20591

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Ms. Magalie Roman Salas
Office of the Secretary
Federal Communications Commission
1919 M Street, NW., Room 222
Washington, DC 20554

Dear Ms. Salas:

We have reviewed the Federal Communications Commission's (FCC) Notice of Inquiry in the matter of *Revision of Part 15 of the Commission's Rules Regarding Ultra-Wideband Transmission Systems*, FCC 98-208, ET Docket No. 98-153. The Federal Aviation Administration (FAA) is aware of the benefits of ultra-wideband (UWB) technologies and agrees that presently identified and future applications of UWB systems make them a valuable tool. Despite these benefits, the FAA has serious concerns about the proposed revisions to the FCC rules to accommodate UWB systems, because these devices will cause interference to critical aeronautical safety systems.

Specifically, we are concerned by the FCC's consideration of lifting the prohibition of intentional radiation of UWB systems in some or all of the Title 47 Code of Federal Regulations, Part 15, restricted frequency bands and the consideration of licensing these systems under some other rule part. In the case of the FAA, the restricted bands are allocated to services used for critical aeronautical safety services. The FAA is opposed to any authorization of licensed or unlicensed UWB systems to intentionally radiate in these bands. It is likely that authorizing even limited operation of such systems will lead to further proliferation of UWB systems as new applications for their use are developed. Civil aviation's requirement for protected radio spectrum, including that supporting

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critical communications, navigation, and surveillance safety services, is paramount. The FAA has documented cases of radio frequency interference caused to such services from non-licensed low power devices such as television antenna amplifiers, baby monitors, personal computers, and UWB operations. In each case, these incidents caused disruption to air traffic flow within the United States, and there was a corresponding decrease in the safety margin in the aeronautical frequency bands designated as "restricted." Another potential problem is in tracking down instances of interference for UWB devices. A low-power system with bandwidth on the order of several gigahertz would be difficult to trace using traditional direction-finding equipment. Proliferation of UWB systems will result in an increased potential for harmful interference and a concurrent decrease in this agency's ability to safely control the nation's airspace. It should be noted that the National Telecommunications and Information Administration has shown that a UWB system can interfere with a Global Positioning System receiver (soon to be the backbone of the global aeronautical radionavigation system) at a distance exceeding 30 meters.

The FAA could agree with an appropriate licensing procedure if the manufacturers of UWB systems could demonstrate how radiation from UWB systems could be inhibited/filtered-out in those restricted bands, in Part 15, that are designated for aeronautical safety systems. If the manufacturers of UWB systems can design their systems not to radiate in radio spectrum for aeronautical system, sufficient unwanted out-of-band emission limits must be determined that take into account the aggregate effect of emissions from multiple UWB systems operating simultaneously.

The policy of prohibiting non-aviation use of radio spectrum used to support aeronautical safety services must be maintained. Revising the rules to allow UWB systems to operate in restricted bands will erode the protection of the bands used for aeronautical safety services and result in unnecessary degradation of the high levels of safety required by our air traffic control system.

If you require any additional information, please contact Mr. Michael Richmond, Spectrum Planning and International Division, at (202) 493-4157.

Sincerely,

for Gerald J. Markey
Program Director for Spectrum
Policy and Management