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American Airlines Inc. · American Congress on Surveying and Mapping
American Medical Response · ARINC
ARRL, The National Association for Amateur Radio · Cingular Wireless
Continental Airlines · Ericsson Inc. · Delta Air Lines, Inc.
Garmin International, Inc. · General Aviation Manufacturers Association · Honeywell
IntegrINautics Corporation · International Air Transport Association
Multispectral Solutions, Inc. · National Business Aviation Association, Inc.
National Ocean Industries Association · NavCom Technology, Inc.
Northwest Airlines, Inc. · NovAtel, Inc. · Omnistar, Inc. · OUTREACH · PanAmSat
QUALCOMM Incorporated · Rockwell Collins, Inc. · Satellite Industry Association
Sprint Corporation · Tandler Cellular, Inc. · Trimble Navigation, Ltd.
United Airlines · United States GPS Industry Council · Verizon Wireless*

October 2, 2002

The Honorable Michael K. Powell
Chairman
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: ET Docket No. 98-153

Dear Mr. Chairman:

The companies and associations listed on the above letterhead are deeply concerned with your August 29 response to Senator Burns' letter requesting information about FCC testing in this proceeding. For the reasons set forth below, we are particularly concerned that:

- (1) the Commission is not testing the intentional and aggregated emissions from ultra wideband (UWB) devices, but instead is testing the levels of incidental noise produced by unintentional consumer emitters, such as laptops, hair dryers, etc. in radio frequency bands allocated to authorized services; and
- (2) the Commission does not intend to provide a test plan for public review and comment in advance of conducting tests; only when the testing is complete will the Commission introduce the test methodology and the test results into the proceeding for public comment.

A Comparison Between Incidental and Intentional Noise Is Inappropriate – The Potential Harm Is Not The Same

We applaud the Commission's initiative to look at the existing noise floor with respect to unintentional emitters. Nevertheless, we caution against the Commission's assuming that the potential harm created by unintentional emissions from consumer devices (such as computers, electric drills or hair dryers) is the same as the potential harm created by intentional emissions from consumer devices that can be connected depending on the application: communications, tracking, or imaging. The economic driver for these devices resides in the ability to create

ad hoc networks for marginal incremental cost, thus expanding the consumer's connectivity potential. Experience with similar technologies demonstrates a connectivity progression that results in the concentration, or densification, of intentional emissions.

Modeling The Potential Harm

In most intensely used communication channels, for example, Personal Communication Services (PCS), it is interchannel interference that is the limiting factor. This interchannel interference is noise created by dense operations. It must be presumed that license-free UWB devices operating, either as point-to-point communication devices, or as network elements, will be operationally subject to interchannel interference limitations. There remains considerable debate on how much noise aggregation from cooperative and non-cooperative networks operating in proximity will affect the overall noise floor. Experience with the 2.4 GHz band, used on a free basis by Part 15 unlicensed consumer devices, indicates that the problem is very substantial. It seems that these questions, are the ones that need to be examined and answered. Network aggregation is the basis for the severe degradation of the noise floor in license-free bands. Consequently, unless the noise floor analogy can be made between incidental noise floor measurements and what is occurring in bands used on a free basis by Part 15 unlicensed consumer devices (e.g., 2.4 GHz), this comparison must await the availability of overlapping UWB networks in order realistically to model the potential harm.

In addition, appropriately modeling the harm to commercial UWB, is equally important to the emerging UWB industry due to proposed shared spectrum use. Specifically, without addressing real UWB systems, the FCC continues to lack a scientific basis for determining the proper levels and operating frequencies that can accommodate this technology on a (a) non-interfering basis to other services; and (b) of sufficient power levels to develop commercially viable products.

Peer Review of Methodology Is Essential For Scientific Consensus

We presume that the results of the testing being conducted are likely to serve as the basis for regulatory decisions affecting a broad range of existing technologies, services, industries, commercial customers and consumers, including safety-of-life and public safety. Established scientific methodology relies on public peer review and comment to validate and to reach consensus on the method of approach to be used to conduct testing. To advance confidence in the process, the Commission's testing methodology should continue to be open to public review and comment in advance of the actual tests. We are concerned that this failure of transparency in the testing process may undermine the credibility of the results of the testing underway.

We remain concerned that the Commission is testing hair dryers, but not actual UWB devices. The fact that the FCC intends to test hair dryers instead of real UWB devices is an indicator of the lack of true knowledge about the impacts of UWB. In your letter to Senator Burns, you recognize the need to test emissions from actual UWB devices. Consequently, if UWB devices are not available, the only prudent course is for the Commission to withhold any further action to relax the emission limits established in its First Report and Order until UWB devices/networks are available for testing.

We believe that consensus on a test approach and methodology is the way forward for everyone concerned. We stand ready to work collaboratively with the Commission to achieve such a consensus.

Respectfully submitted,

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