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BY HAND DELIVERY

Mr. Dale Hatfield
Chief
Office of Engineering and Technology
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

**Re: Applications for Special Temporary Authority of Time Domain
Corporation to Test Ultra-Wideband Devices, File Nos. 0240-EX-ST-2000;
0332-EX-ST-2000; and 0478-ST-EX-2000.**

Dear Mr. Hatfield:

The U.S. GPS Industry Council (the "Council") has recently discovered that since September 1999, the Commission's Office of Engineering and Technology ("OET") has granted Time Domain Corporation ("Time Domain") at least 30 *ex parte* requests for Special Temporary Authority ("STA") to test and/or demonstrate devices employing ultra-wideband ("UWB") technology.¹ By this letter, the Council, through its attorneys, respectfully requests that OET immediately refrain from processing on an *ex parte* basis all pending and any future Time Domain Experimental Radio Service applications involving the testing and/or demonstration of UWB devices.² The Council believes that it is inappropriate for OET to process Time Domain's applications without first providing for open and full public participation in the deliberations, and without further ensuring that the results of any authorized experimental efforts are funneled directly into the record of the on-going rulemaking proceeding.

¹ A contemporaneous printout from OET's website of the history of Time Domain's STAs regarding UWB devices is attached to this letter.

² As far as the Council can determine, Time Domain currently has only the three above-referenced STA requests pending before the Commission.

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As an initial matter, the Council was quite alarmed to find that in making these STA grants, OET appears not to have imposed most of the conditions on UWB use that OET itself (with substantial input from the National Telecommunications and Information Administration ("NTIA")) imposed on the three companies -- including Time Domain -- that were granted limited waivers of Part 15 rules in 1999 to deploy UWB devices.³ For example, OET has not imposed the NTIA condition that provides that all equipment approved under the waivers "must contain a 'deadman' switch, or a 'push-to-talk' switch and when appropriate to the intended use, a 'proximity switch,' so that positive control of operations is guaranteed."⁴ The deadman's switch and the other conditions of the waivers were identified by the Commission and NTIA as technical and regulatory conditions that are necessary to protect existing users of the radio frequency spectrum, and were accepted by the waiver grantees.

Now, OET is authorizing the use of UWB devices without requiring the conditions that were essential only a year ago (and remain so in the minds of many users of existing spectrum). This is most peculiar, and both OET and Time Domain should explain why STAs are being sought and granted when Time Domain received the regulatory go ahead it claimed to desire in the form of the waiver.

The subject of UWB technology and its compatibility with existing public safety-related and commercial radio services -- including the millions of receivers in operation today with the satellites of the Global Positioning System ("GPS") -- is presently under investigation in the Commission's rulemaking proceeding in ET Docket No. 98-153. Serious concerns have been expressed there by many parties about the potential of UWB devices to cause harmful interference to existing radio services. The compatibility issue is a complex one, however, that requires the thoughtful participation and input of all affected parties.

The actions called for by the Council in this letter are necessary because of the very real threat of harmful interference that is posed by UWB devices, as the Council and others have shown in ET Docket No. 98-153. Although some UWB applications -- including ground-penetrating radars and through-the-wall imaging devices that are the subject of certain Time Domain STA experiments -- may possibly be able to protect GPS and other services, very stringent conditions on the deployment and operations of such services are essential. In addition, network applications of UWB devices that are the subjects of other, more recent Time Domain experiments provide significantly more difficult technical and regulatory challenges, as do UWB radars that are not

³ See, e.g., Letter dated June 29, 1999, from Dale Hatfield, Chief, Office of Engineering and Technology, to David E. Hilliard (Ref. Nos. 31030/4-3-4, 1300C2) ("Time Domain Waiver"). Time Domain's waiver authorized it to establish 2,500 UWB units.

⁴ *Id.* at 3, Attachment (General Condition No. 10). Other conditions include precertification requirements, reporting requirements, and power limitations, among others. *Id.*

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operated at all times in direct contact with the ground or a wall. Operation of these types of devices would clearly introduce noise into the GPS bands. As GPS receivers are ubiquitously deployed, and likely are in use within the geographic areas covered by Time Domain's STA applications, there is a very real prospect that STA grants will produce harmful interference to GPS receivers.

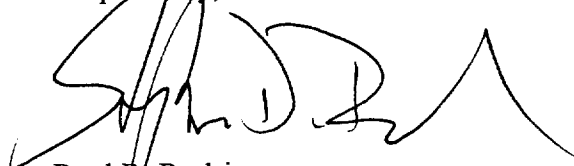
Although many of Time Domain's STA requests seek authority to operate UWB devices for only days at a time, the temporary, short-term nature of these STAs does not mitigate the Council's concerns regarding harmful interference. In fact, the aggressive manner in which Time Domain has sought its various authorizations heightens the Council's concerns. Since September 1999, Time Domain has requested at least 40 STAs to test or demonstrate various UWB devices. Most of its STA applications have been submitted since June of this year, and the rate of submission has accelerated to the point where eight applications were filed during September 2000 alone.

The Council wishes to make clear that it does not oppose the testing of UWB devices by Time Domain. Indeed, it supports such testing, provided that the results are made available to all interested parties. To this end, the Council urges OET to require Time Domain to provide the results of each of its experiments conducted pursuant to an STA into the record of the UWB rulemaking proceeding. In addition, the requirement to provide test results into the public record should be applied to any future temporary authorizations that may be granted to Time Domain.

In sum, the Council urges OET to suspend the processing of any pending or future STA applications of Time Domain in connection with UWB devices. Public comment should be sought on all such applications, and the technical and regulatory conditions imposed in the Time Domain Waiver should accompany any future grants. In addition, the Council urges OET to require Time Domain to provide the results of all past and future experiments into the record of the UWB rulemaking proceeding.

Please contact the undersigned with any questions concerning this matter.

Respectfully,



Raul R. Rodriguez

Stephen D. Baruch

Philip A. Bonomo

Attorneys for the U.S. GPS Industry Council

Enclosure

cc (w/encl.): David E. Hilliard, Esq. (by mail)



Federal Communications Commission

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