

Institute for Simulation and Training
University of Central Florida
07/24/2000
File No. 0285-EX-ST-2000

Exhibit 1

Signal Description

This request seeks authority to demonstrate prototype equipment that uses "time modulated" ultra wideband (UWB) technology developed by Time Domain Corporation ("Time Domain"). The device to be exercised is a PulsON[™] Application Demonstrator (PAD). The PAD is a laboratory evaluation device that is a test device only. Our access to this device is pursuant to an agreement with Time Domain for the evaluation and development of UWB technology. The PAD is not a device to be marketed.

This device generates a signal that is pulse position modulated. The position of the modulated pulse employed by this device varies randomly in time so as to produce a spectrum that approximates gaussian noise. If an emission designator were to be applied to this device, Time Domain believes that 2G00P1D would be descriptive of the signal as modulated. If unmodulated for radar applications, the emission designator would be 2G00P0N. The nominal center frequency of the signal is 1.8 to 1.9 GHz. The radiated power of each device is below the general limits set forth in Part 15. For the purpose of this STA, the total power output from the transmitter is 100 microwatts. The radiated power of the device is 85 microwatts EIRP (52 microwatts ERP) or less.

The PAD will use an omni-directional Time Domain Diamond dipole antenna. Note that this antenna has virtually no gain across the spectrum of the transmitted signal, unlike a classic reference dipole designed for narrowband operation.

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Exhibit 2

Necessary Bandwidth

The necessary bandwidth for the purposes of this STA request should be considered to be 2 GHz. In the frequency domain, the signal would have a nominal center frequency at 1.8 to 1.9 GHz with energy extending 750 MHz below and 1250 MHz above the nominal center. The necessary bandwidth for these purposes has been determined experimentally through laboratory measurements.

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Exhibit 3

Operational and Geographic Information – Location 1

This request seeks a special temporary authorization to evaluate ultra wideband ("UWB"):

Date:	Time:	Location:
11/01/2000 through 11/24/2000	0700 - 0700 (24 Hrs a day)	3280 Progress Dr. Orlando FL 32826

NAD-27: Latitude 28:35:20 N

NAD-27: Longitude 81:11:57 W

Note: According to the FCC TOWAIR database, the nearest landing area is the **Orlando Executive Airport** which is **8** miles away.

Operational and Geographic Information – Location 2

Date:	Time:	Location:
11/25/2000 through 11/30/2000	0700 - 0700 (24 Hrs a day)	9800 International Dr. Orlando FL 32819

NAD-27: Latitude 28:25:32 N

NAD-27: Longitude 81:27:42 W

Purpose: This authority will permit the operation of ultra-wideband laboratory test equipment for the purpose of evaluating the functionality of UWB technology being developed by Time Domain Corporation.

Number of units: 4 PADS

Antenna Gain: Nominally 0db

Radiated Power: Less than -71.25 dBW/MHz per device

Contact Information**Contact person during hours of operation at location:**

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Contact person regarding this request:

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Public interest showing:

The commission has heretofore found it to be in the public interest to explore the development of ultra-wideband technology. See *Notice of Inquiry* in ET Docket 98-153 released September 1, 1998 and *Notice of Proposed Rulemaking*, released May 11, 2000.

The purpose of the operations to be conducted under this requested authority will be to evaluate UWB as a potential technology in support of products that the U. S. Army is considering developing. We realize that the U. S. regulations at the time of this request have been adopted by the Commission and that the Commission may not adopt regulations for UWB or may adopt regulations that are significantly different from the regulations proposed in the May 11 *Notice of Proposed Rulemaking* and that the regulations may affect any products that we design.