

Time Domain Corporation  
Experimental STA Request  
April 4, 2003  
File No. 0138-EX-ST-2003

## **Exhibit 1 Signal Description**

This request seeks authority to demonstrate prototype equipment that uses the “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 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 2G00PID 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 power spectral density of the device should be specified as  $< -71.25$  dBW/MHz. The total power output from the transmitter is 100 microwatts. The radiated power of the device is 85 microwatts WIRP (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.