

Lockheed Martin Corporation
Experimental STA Request
January 18, 2002
File No. 0030-EX-ST-2002

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™ Signal Generator. The Signal Generator 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 Signal Generator 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 4.2 to 4.3 GHz. For the purpose of this STA, the field strength of the device should be specified as $< 66 \text{ dB}_{\mu\text{V}}/\text{MHz}$ (microvolts per megahertz) at 1 meter, using standard Part 15 Class B measurement techniques. The total power output from the transmitter is 50 microwatts. The radiated power of the device is 100 microwatts EIRP (61 microwatts ERP) or less.

The TAG will use an omni-directional Time Domain BroadSpect™ dipole antenna. Note that the maximum of the antenna’s gain has been incorporated into the measure field strength.