



Wiley Rein & Fielding LLP

1776 K STREET NW
WASHINGTON, DC 20006
PHONE 202.719.7000
FAX 202.719.7049

Virginia Office
7925 JONES BRANCH DRIVE
SUITE 6200
MCLEAN, VA 22102
PHONE 703.905.2800
FAX 703.905.2820

www.wrf.com

David E. Hilliard
202.719.7058
dhilliard@wrf.com

January 29, 2002

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: ET Docket No. 98-153 - Ultra-Wideband
Ex Parte Notice

Dear Ms. Salas:

On January 28, 2002, Jeffrey Ross of Time Domain Corporation, Robert Pettit of this firm and I met with Bryan Tramont, Senior Legal Advisor to Commissioner Kathleen Abernathy. We discussed the status of the Commission's rulemaking on Ultra Wideband and explained Time Domain's draft rule set forth in the enclosures to this letter. We also used a chart based on reports of prior FCC and NTIA proposals to discuss the emissions limits that are under consideration. A copy of the chart is enclosed.

Pursuant to Section 1.1206 of the Commission's Rules, 47 C.F.R. §1.1206, an original and a copy of this letter have been submitted for inclusion in the public record. Please contact me at the phone number listed above if you have any questions concerning this letter.

Respectfully,

David E. Hilliard
Counsel for Time Domain Corporation

Encl.

cc: Bryan Tramont, Esq. (w/ encl.)

Time Domain UWB Proposal

- **Emissions Mask.**

<u>Frequency (MHz)</u>	<u># of db below Part 15</u>
< 960	Current limits set forth in Part 15
960-2000	12
Above 2000	0

- **Additional Protection for GPS.** Limits of 21db below Part 15 in the GPS bands to protect against spectral lines or showing that the device in question produces effects in GPS receivers that are equal to or less detrimental than gaussian white noise at 12 db below the Part 15 limit.
- **Limits on Outdoor Operation.** No UWB devices may have a radiating antenna mounted on an outdoor surface unless: (1) it is an industrial entity under Part 90; and (2) the antenna is not more than 3 meters off the ground and the main lobe is at an elevation of -5 degrees or lower.
- **Public Safety.**
 - ✓ Only marketed to eligible public safety entities under Part 90 of FCC rules.
 - ✓ Part 15 power levels
 - ✓ Protection of 10 db below Part 15 Class B in the GPS L1 band to protect against spectral lines or showing that the device in question produces effects in GPS receivers that are equal to or less detrimental than gaussian white noise at the part 15 general limit.
 - ✓ Nominal center frequency of devices above 2 GHz
 - ✓ Operation of device limited to preservation of life and/or property or training
 - ✓ Registration requirement

15.____ Ultra-wideband Operation.

(a) Ultra-wideband devices as defined in Section 15.____ are authorized to operate under the following conditions:

(b)(1) Except as specifically provided in sub-paragraphs (c), (d), and (e) hereof, radiated emissions from ultra-wideband devices shall not exceed the following limits:

Frequency (MHz)	Field Strength (uV/meter@3meters)
<960 MHz	Limits set forth in §15.209(a)
960-2000	125
above 2000	500

(i) Measurements may be made at less than 3 meters with the limits adjusted inversely proportional to distance. Measurements shall be performed using an RMS detector with a 1 MHz resolution BW.

(ii) In addition to the limits set forth above, no ultra-wideband device shall radiate spectral lines in the band 1565.42 - 1585.42 MHz at a level exceeding 45 uV/m at 3 meters when measured with an RMS detector with a 10 KHz resolution bandwidth. In lieu of meeting this requirement, the applicant may provide measurement data showing its device produces effects in GPS receivers equivalent to or less detrimental than those produced by gaussian white noise at the power level that would produce field strength levels equivalent to those specified in subparagraph (b) (1)(i) above for the band 960 – 2000 MHz.

(iii) Manufacturers of UWB devices must ensure the frequency stability such that the emissions profile specified in this sub-paragraph is maintained under all conditions of normal operation.

(2) No ultra-wideband device authorized under this sub-paragraph (b) may

(i) have its radiating antenna mounted outdoors on any pole or surface unless such device is marketed exclusively for use by entities eligible for licensing in the industrial and land transportation pool of frequencies under Part 90 of this Chapter; and

(ii) provided further that any such device marketed to such an entity shall have any outdoor radiating antenna mounted not more than three meters above ground with instructions provided specifying that the antenna must be such that the main lobe of the pattern is at an elevation angle of -5 degrees or lower.

(c)(1) Ultra-wideband devices marketed exclusively to entities eligible for licensing in the public safety pool of frequencies set forth in Part 90 of this Chapter will be authorized, provided that

(i) The radiated emissions from such devices do not exceed the limits set forth in Section 15.209(a) of this Chapter;

(ii) In addition to the limits set forth above, no ultra-wideband device shall radiate spectral lines in the band 1565.42 - 1585.42 MHz at a level exceeding 165 uV/m at 3 meters when measured with an RMS detector with a 10 kHz resolution bandwidth. In lieu of meeting this requirement, the applicant may provide measurement data showing its device produces effects in GPS receivers equivalent to or less detrimental than those produced by gaussian white noise at the power level that would produce field strength levels equivalent to those specified in sub-paragraph (c)(1)(i) for frequencies above 960 MHz.

(iii) The nominal center frequency, defined as the midpoint between the 3dB down frequencies on either side of the emission, of such devices is above 2000 MHz; and

(c)(2) The operation of devices authorized under this sub-paragraph is limited to uses directly related to the preservation of life and/or property or training directly related to such preservation.

(c)(3) Any public safety entity desiring to use an ultra-wideband device authorized under the provisions of this sub-paragraph (c) shall in advance of such operation register, with an entity designated by the Commission, the number of such devices, the FCC ID number associated with the device, the area of operation for such devices, and a representative who can be contacted in the event of reports of harmful interference that may be associated with the operation of such devices. The entity shall initially inform the operator of the device of the harmful interference report providing an opportunity to resolve the harmful interference and, when necessary to protect licensed services, exercise authority to order the termination of the operation of such devices until the interference complaint has been resolved.

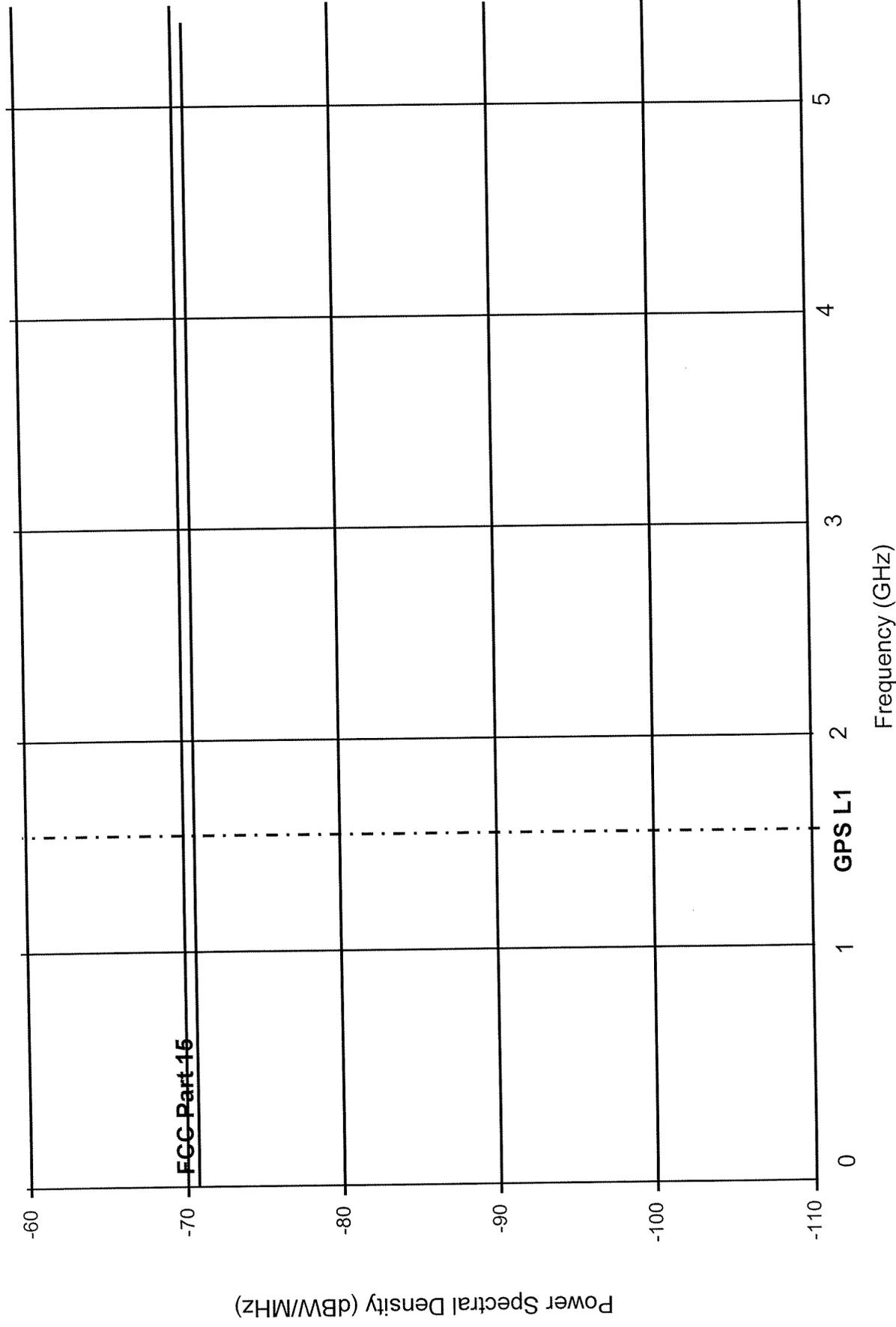
(d) [provisions pertaining to ground penetrating radar devices]

(e) [provisions pertaining to or referencing the rules for 24 GHz vehicle radar]

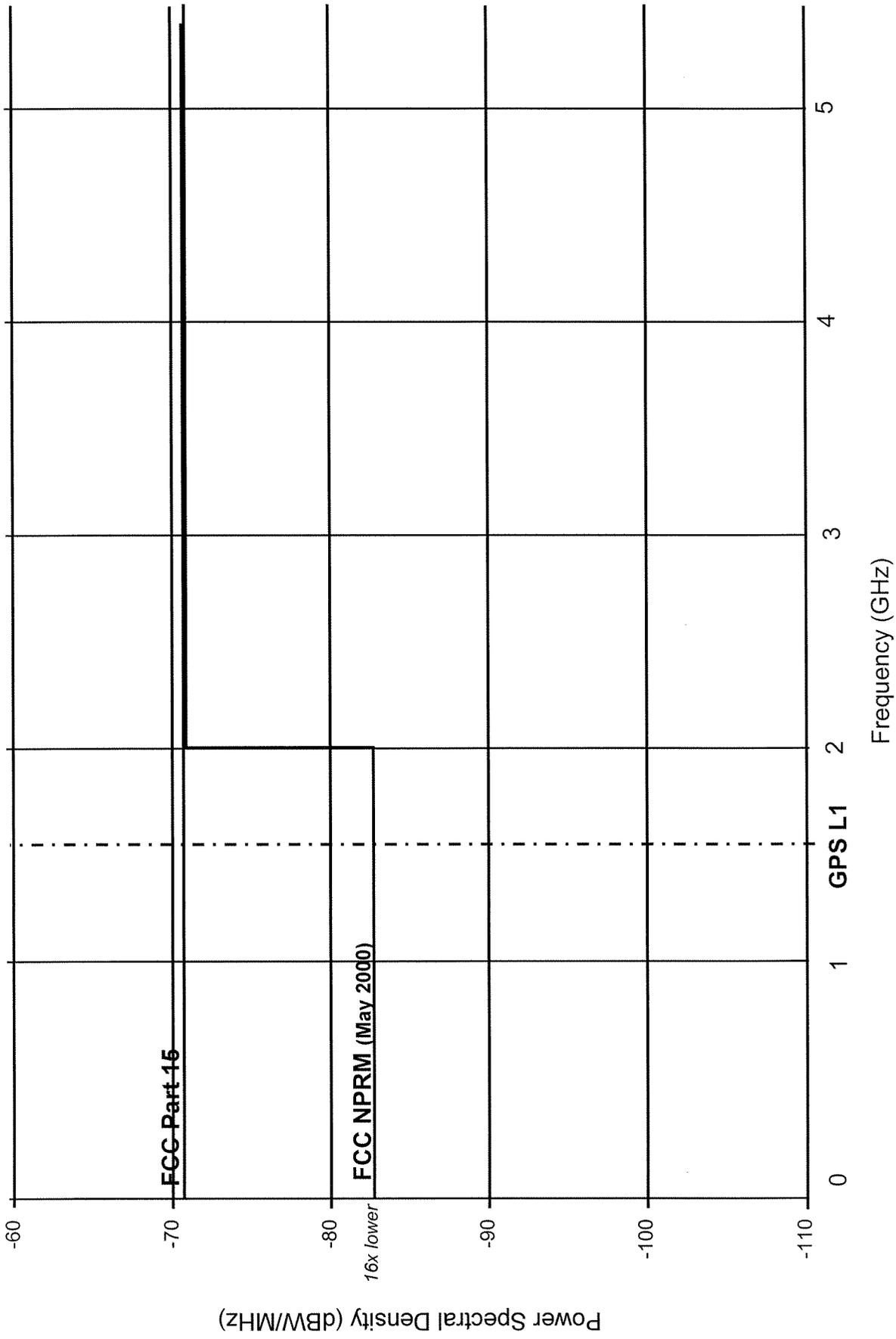
NOTE: The footnote to Section 15.209 should be amended to include a reference to this rule pertaining to the authorization of UWB devices.

Antennas for UWB devices would either be integral, permanently attached, or attached using a unique connectors. See Section 15.203.

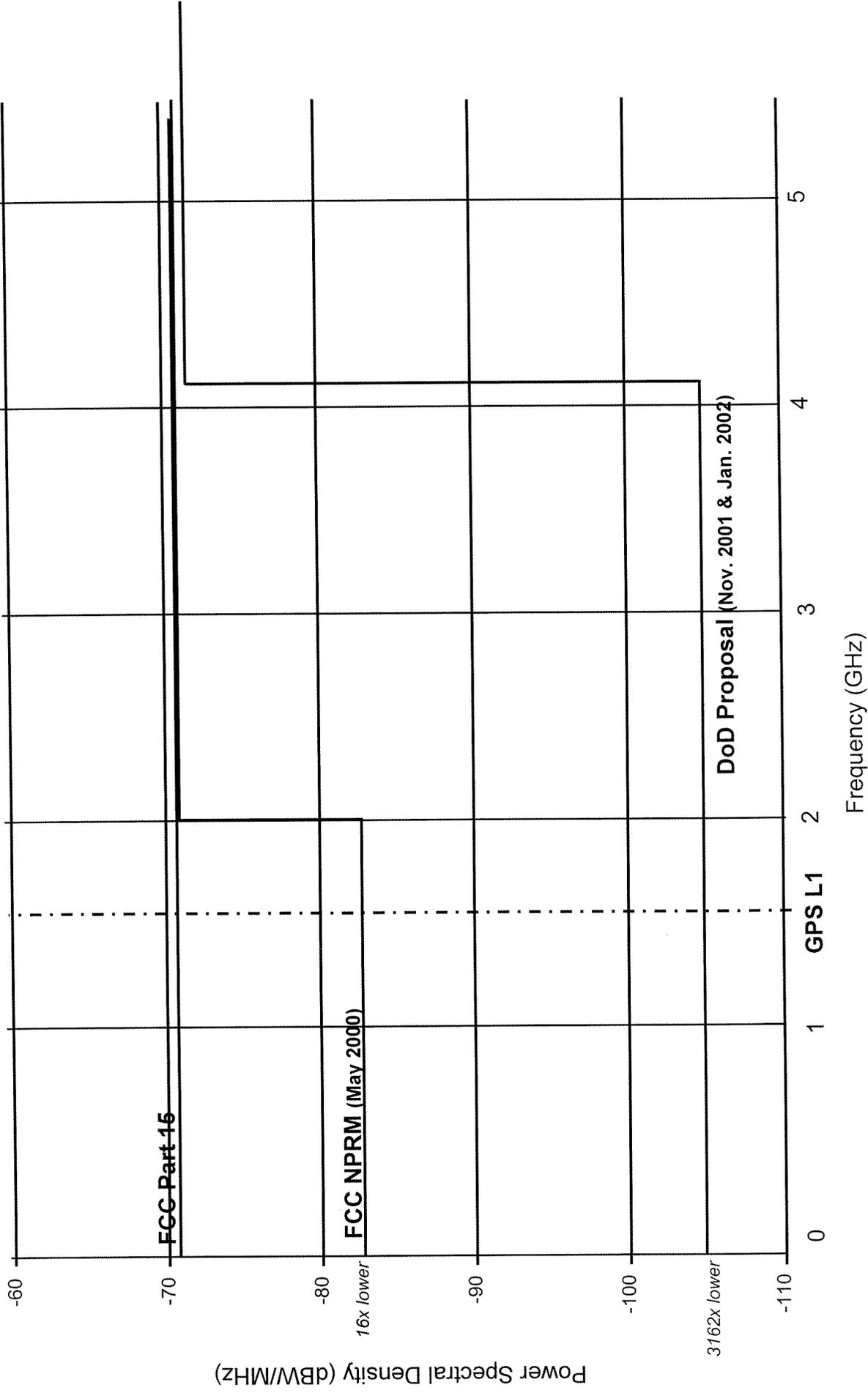
UWB Proposed Emissions Limits



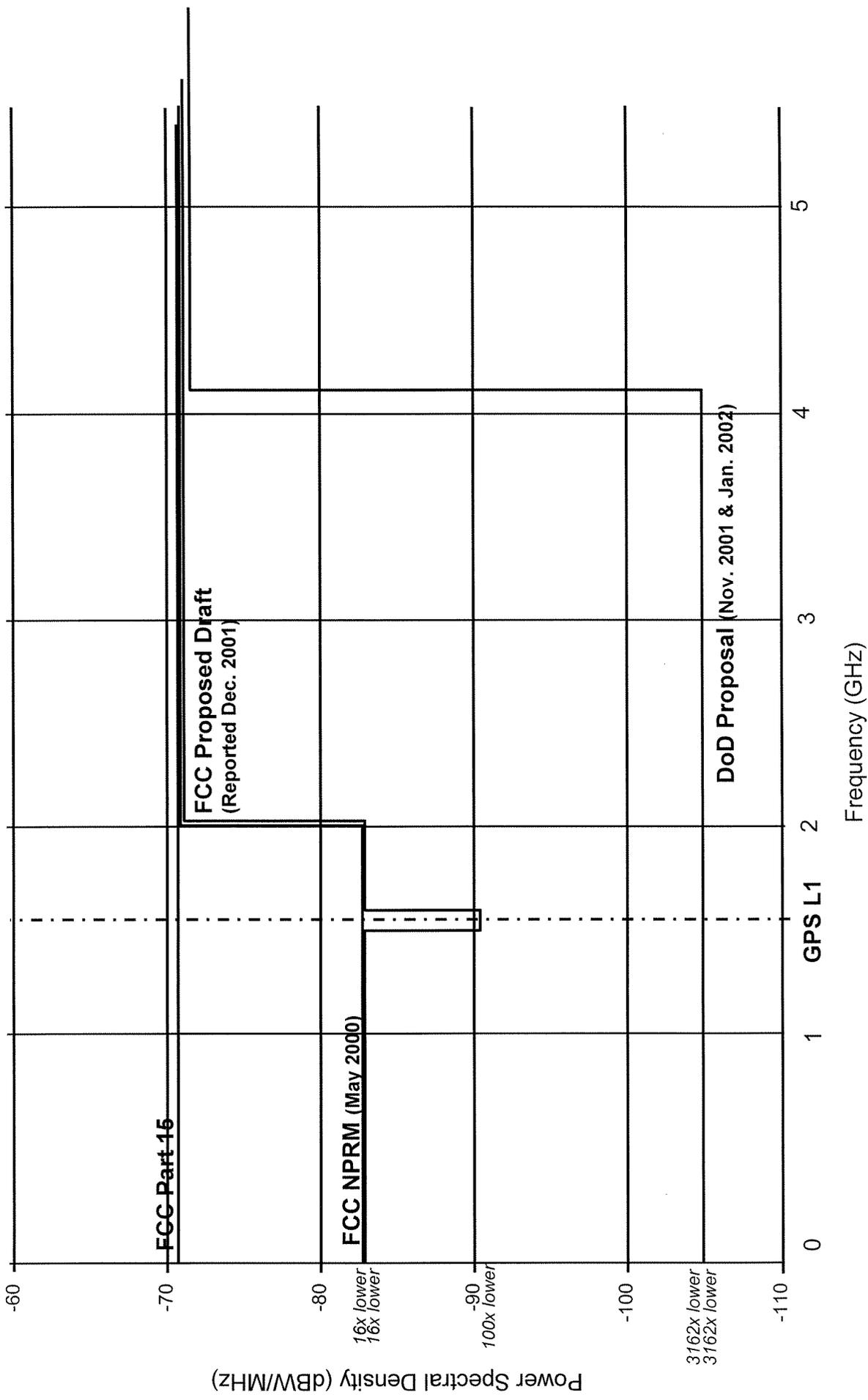
UWB Proposed Emissions Limits



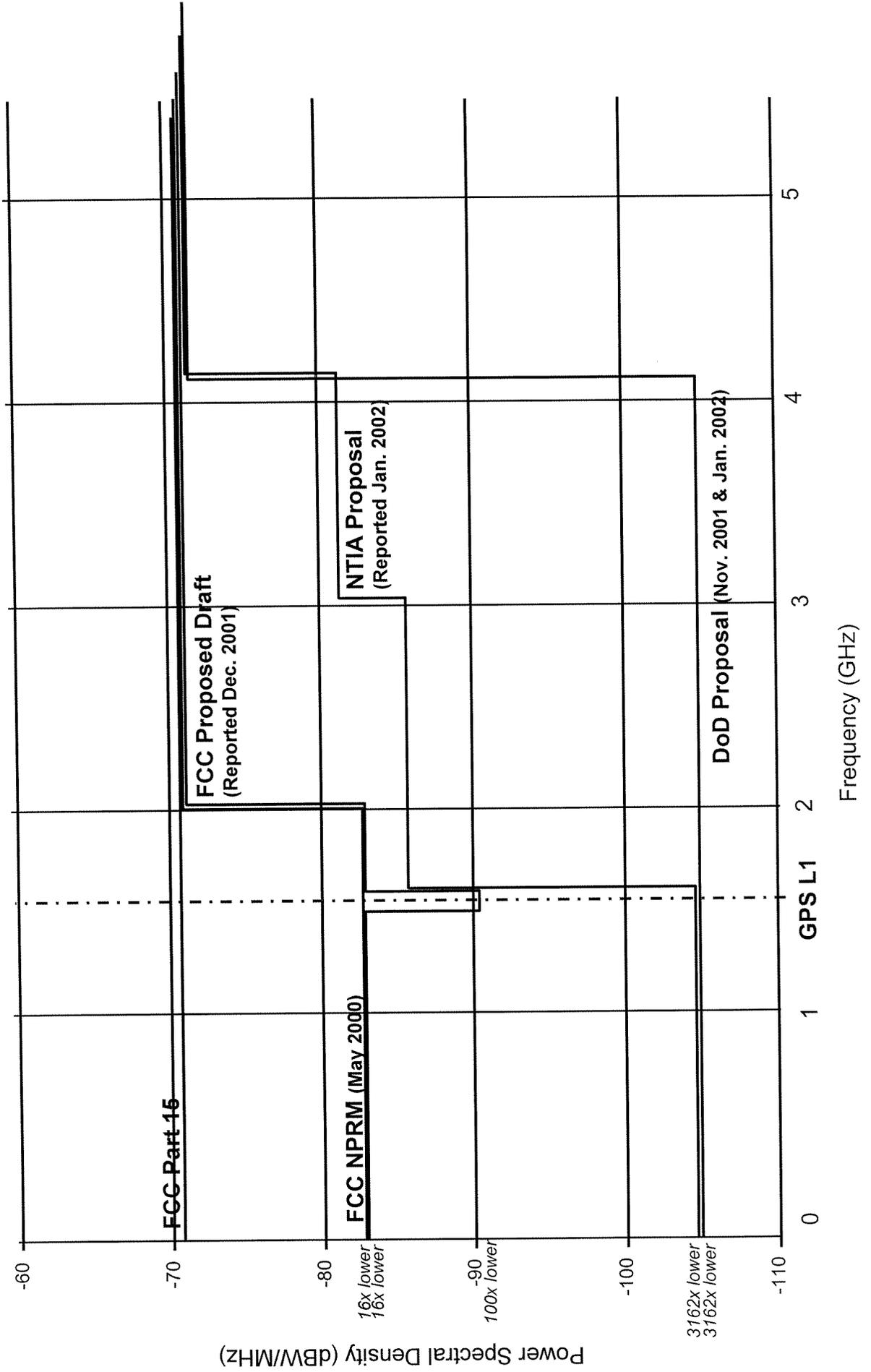
UWB Proposed Emissions Limits



UWB Proposed Emissions Limits



UWB Proposed Emissions Limits



UWB Proposed Emissions Limits

