

GPS Networking, Inc.
Experimental License Application
Pueblo, Colorado

EXHIBIT 1
Explanation of the Spectrum to Be Used under the Experimental License

In this Exhibit, GPS Networking, Inc. presents an explanation of the spectrum which is proposed to be used under this experimental license.

The Global Positioning System (GPS) currently broadcasts on two frequencies (1575.42 MHz and 1227.60 MHz). These are known as the L1 and L2 frequencies, respectively. A third frequency (1176.45 MHz), known as L5, has been approved for future use. GPS Networking, Inc. requests an experimental license to re-broadcast signals at these frequencies to be used by GPS receivers of current design to improve their navigation accuracy and reliability. This application is for use of the L1 frequency at 1575.42 MHz and for use of the L2 frequency at 1227.60 MHz. The L2 frequency is used to increase the time accuracy of the data collected, since the signal being repeated will remain encrypted.

The existing GPS satellite signals are spread spectrum signals occupying a band 24 MHz wide centered on each of the above frequencies. As a matter of practicality, the L2 frequency requires a slightly smaller band, approximating 20.5 MHz (see Exhibit 2). The signal from each satellite occupies essentially the entire band. Signals from individual satellites are distinguished using Code Division Multiple Access (CDMA) techniques.

GPS Networking, Inc. intends to experiment with signals identical to the existing GPS satellite signals, occupying the same bandwidth.

Because the intent of this experiment is to re-broadcast signals identical to the existing GPS satellite signals on the L1 and L2 frequencies, GPS Networking, Inc. requests an experimental license covering the same spectrum as those existing signals (i.e. 24 MHz centered on 1575.42 MHz and 24 MHz centered on 1227.60 MHz).

The re-broadcast signal is identical to the existing GPS satellite signals, therefore there is no distinctive frequency tolerance noted for the frequencies listed in this application.

GPS Networking's experiments use the L1 and L2 frequencies because the experiments are testing lower power, indoor, re-radiation of the GPS satellite signals to promote public safety uses of the GPS location system.