

Description of Experimental Program

Hewlett-Packard Company ("HP") requests experimental authority herein to test biomedical telemetry devices that operate between 470-476 MHz and 482-488 MHz at Huntsville Hospital in Huntsville, Alabama. As is explained below, HP needs experimental authority to support a developmental program exploring operation of medical equipment on additional frequency bands.

HP manufactures low-power (<4 mW ERP) medical telemetry transmitters that transmit electrocardiogram waveforms and other critical patient data in hospitals on the 12.5 KHz offset channels allocated to the Business Radio Service between 460 and 470 MHz under Part 90 of the Commission's Rules. HP is also a member of the Critical Care Telemetry Group, which filed a Petition for Rulemaking and comments in ET Docket 95-177 to increase to 5 mW the maximum authorized power for telemetry transmitters under Part 15 the VHF and UHF television bands.

In order to gain information concerning the operation of low-power telemetry transmitters in the lower UHF band, HP is seeking experimental authorization to recrystal existing transmitters to operate at selected frequencies between 470 and 516 MHz at selected locations.¹ These telemetry transmitters already operate at these frequencies in other countries, but HP wishes to consider the effect of interference from adjacent NTSC television and PLMR signals on telemetry operations in a demanding RF environment.

Huntsville Hospital is an excellent candidate for such an evaluation. Because of RF interference in the 460-470 MHz band, many of the existing Part 90 channels are unusable for medical telemetry. In addition, because of the presence of NASA and other government facilities in Huntsville, as well as other high-power RF transmitters -- in addition to the extensive use of Part 90 transmitters within the hospital itself -- the hospital presents a good profile for analyzing the performance of telemetry transmitters in a demanding RF environment.

Because of this demanding RF environment, the hospital has had to resort to the use of marginal channels, which experience intermittent "drop-outs." In 1996 alone, there have been two cases in which an ECG signal has been lost when

¹ HP will amend the instant application, or modify its license, as appropriate, to reflect any additional locations.

patients have gone into fatal cardiac dysrhythmias. Although in those specific cases, the patients would not have been revived even if the signal had been received continuously, the potential for affecting patient outcomes remains. Huntsville Hospital therefore has an immediate need for additional telemetry channels, and has expressed a willingness to assist HP in this experimental program.

HP proposes to operate with the 470-476 MHz and 482-488 MHz bands, which are adjacent to the existing Part 90 channels. These frequency bands, which comprise UHF channels 14 and 16, are neither allocated to any broadcast licensee within 70.3 miles of the Huntsville, Alabama, area, nor are provisionally allocated under the draft DTV plan in the *Sixth Further Notice of Proposed Rulemaking* in MM Docket 87-268. The availability of these channels allows the experimental program to be undertaken with minimal changes to the receive antennas, while avoiding an interference potential to any other user of the radio spectrum.

The transmitters to be used in this experimental program are type-accepted up to 470 MHz (FCC ID B948JAM1400B). However, because HP also manufactures the transmitter for sale in foreign countries that have different frequency allocations for telemetry, the radios to be used are designed by HP to operate at up to 506 MHz. Accordingly, HP does not anticipate any significant deviations in the characteristics of the transmitter as type accepted that would increase its interference potential.