Mayo Clinic Experimental License Application Supplemental Material

To: Federal Communication Commission
Office of Engineering and Technology

Re: Narrative Statement Describing Purpose of Experiment for Experimental License Application
FCC Form 442
File # 0295-EX-PL-2015

QUESTION 7: PURPOSE OF EXPERIMENT

i) The complete program of research and experimentation proposed including description of equipment and theory of operation

One of the objectives of this research project includes exploration of technologies which enable remote patient monitoring outside the traditional hospital environment such as residential home settings. Hardware developed in support of this effort includes a body worn electronics platform with a wireless link capability to enable transmission of various physiological parameters. Data transmitted from the on-body device will be received by a custom developed intermediate gateway, also located within the experimental environment. From this gateway, the data will be forwarded over a non-experimental communications path back to the medical center. The wireless link between the on-body device and the gateway will use a custom circuit design based in part on a commercial transceiver integrated circuit designed to operate under part 15 rules. Part 15 compliant transmitter parameters, such as power, spectral purity, frequency, etc., will be verified by direct measurement using NIST traceable RF test equipment.

ii) The specific objectives sought to be accomplished

The primary objective of this experiment is to investigate the use of wireless patient monitoring devices in a real world environment, such as a private home, using volunteer subjects and an Internal Review Board (IRB) approved protocol.

iii) How the program of experimentation has a reasonable promise of contribution to the development, extension, expansion or utilization of the radio art, or is along line not already investigated

Remote patient monitoring is currently an active area of development which is often based on consumer grade hardware. In addition to technical studies required to verify coverage for a given floor plan, this project includes a clinical trial component thereby allowing the completion of case studies to evaluate the efficacy of such systems in a private residence under real world *i.e.*, non-laboratory conditions.

Sincerely,

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