

**EXPERIMENTAL LICENSE PROGRESS REPORT  
OF THE ALFRED MANN FOUNDATION  
May 17, 2010**

As required under the experimental license renewal granted on November 16, 2009 (Call Sign WD2XLW; File No. 0228-EX-RR-2009), the Alfred Mann Foundation for Scientific Research (“AMF”) submits this semi-annual progress report on the experimental operations of the medical micropower network (“MMN”) system. AMF continues to make progress with its innovative system. AMF has implemented and continues to implement improvements that will enhance the radio communication performance and reliability of the MMN devices.

Specifically, AMF has completed construction of 40 version two Master Control Units (“MCUs”). The version two MCU radio hardware succeeded in substantially improving receiver linearity to facilitate interoperability signal processing in shared spectrum. Transmitter power was made adjustable in order to adapt to different antenna designs. Additionally, AMF has designed and tested version three add-on MCU hardware to provide a compact user interface.

The spectral excision algorithm is operating as expected, and improvements are ongoing to ensure uniform performance for all implant locations. A simulation station has been constructed to sample actual conditions in all proposed channels at several different locations exhibiting varying noise and signal level characteristics. The detection and excision mechanisms are being tested against these captured signals in order to study the effects of parametric changes on a repeated signal pattern.

AMF continues to improve the implant assembly process. A new soldering process is being developed to increase reliability, particularly in the radio section, which is sensitive to component attachment degradation.

AMF intends to introduce fully functioning MMN devices in clinical studies involving human patients under the auspices and regulations of the Food and Drug Administration. AMF is in the process of considering research proposals and research teams to perform the first human trial tentatively scheduled to commence in 2011.

Table 1 below describes the four channels implemented in the experimental hardware.

**Table 1 – Radio Channel Frequencies (MHz)**

|                              | <b>Lower Edge</b> | <b>Center</b>               | <b>Upper Edge</b> |
|------------------------------|-------------------|-----------------------------|-------------------|
| Band 1                       | 413.919           | 416.405                     | 418.891           |
| Band 2                       | 426.349           | 428.835                     | 431.321           |
| Band 3                       | 438.779           | 441.265                     | 443.751           |
| Band 4                       | 451.209           | 453.695                     | 456.181           |
| <b>Guard bands 7.458 MHz</b> |                   | <b>Band Width 4.972 MHz</b> |                   |