

**EXPERIMENTAL LICENSE PROGRESS REPORT
OF THE ALFRED MANN FOUNDATION
May 16, 2011**

As required under the experimental license renewal granted on November 16, 2005 (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.

In November 2010, Aerospace Corporation, a federally funded research and development center providing objective technical analyses and assessments for space and other government programs that serve the national interest, completed a series of independent tests commissioned by AMF to evaluate the operational capabilities and effectiveness of MMN interference mitigation techniques. These tests verified that the MMN system performs according to its specifications and specifically is able to perform the following interference mitigation techniques: (1) spectrally excise incumbent narrowband signals; (2) change channels without suspending critical functions; (3) shut down gracefully in a communication link loss scenario; and (4) sense the signal level of incumbent systems to avoid interference with those systems by successfully changing channels.

Additionally, at the request of the Department of Defense’s Joint Spectrum Center, AMF conducted tests of the effectiveness of MMN interference mitigation techniques under fading conditions resulting from the operation of incumbent land

mobile radio systems. The tests confirmed that the signal detection, spectral excision, and interference protection mechanisms continued to function properly under these fading conditions.

AMF also successfully conducted further design verification testing of the Version 3 Master Control Units (“MCUs”) and completed the animal study commenced last year. As a result, several minor issues related to MMN operation in the surgical environment were identified and corrected in the Version 3 MCUs, and additional operational data under clinical conditions were collected.

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

Table 1 – Radio Channel Frequencies (MHz)

	Lower Edge	Center	Upper Edge
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
Guard bands 7.458 MHz		Band Width 4.972 MHz	