

**EXPERIMENTAL LICENSE PROGRESS REPORT OF
THE ALFRED MANN FOUNDATION
November 18, 2013**

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 operation 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, including the following:

1. The program focus has turned to the refinement of the end prosthetic and therapeutic requirements, as well as additional necessary changes to the implanted device. A series of executive and research and development discussion group meetings were initiated to develop and track these new aspects. For the application as a stimulator with exoskeleton devices, the previous antenna is compatible, since the MCU antenna is consistently aligned with the implant.
2. It was determined that the charging process was the most prevalent aspect of the user experience. The implant battery charging strategy is best accomplished using the MMN link to periodically report the charge progress. In focusing on the use-case for the patient, improved methods for charging are being investigated.

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Table 1 below specifies the four channels implemented in the MMN 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	