



AN *IN VITRO* COST-EFFECTIVE TEST BENCH FOR ACTIVE CARDIAC IMPLANTS, REPRODUCING HUMAN EXPOSURE TO ELECTRIC FIELDS 50/60 HZ

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Abstract- European Directive 2013/35/UE sets the minimum requirements for the protection of workers exposed to electromagnetic fields and defines workers bearing implants as workers at particular risk. European standards 50527-1 and 50527-2-1 propose the risk assessments methods for these workers, including numerical and/or experimental in-vitro approaches. This study aims to conceive by using both methods, a cost-effective test bench for active cardiac implants in order to reproduce induced electric field in human body due to electric fields 50/60Hz exposure.

Index terms: Electric Field, Low Frequency, Implanted Cardiac Defibrillators, Pacemaker, *In-vitro* EMC set-up.