

Energy Harvesting Techniques for Low Power RF Sensors

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Abstract— This paper presents the research conducted and the progress achieved in the design and implementation of the low cost Energy Harvesting System for low power remote RF (Radio Frequency) Sensor applications. In this implementation, conventional battery is replaced with a super-capacitor which is charged by DC voltage harvested out of RF EM waves. The Friis equation was used to evaluate free space losses in RF Energy at each stage of the system. The amount of time for the charging of the 3F/2.7V super-cap in the best case scenario was 3.5 hours.

Keyword— Energy Harvesting, RF (Radio Frequency), Low Power, Super-capacitor



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