

RF ENERGY HARVESTING AND WIRELESS POWER TRANSFER

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ABSTRACT

Radio Frequency Energy harvesting is a research topic of increasing interest, related to sustainability, which could become a promising alternative to existing energy resources. RF energy harvesting holds a promise able future for generating a small amount of electrical power to drive partial circuits in wirelessly communicating electronic devices. The paper will show all the activities addressed to design a wideband system to recover wideband energy from electromagnetic sources present in the environment. The main idea is to develop battery-free wireless sensors able to capture the available energy into the mentioned bandwidth. The energy of RF waves used by devices can be harvested and used to operate in more effective and efficient way. This paper highlights the performance of energy harvesting in an efficient way by using a simple voltage doubler. With slight modifications we attained high output voltage from harvested RF energy.

KEYWORDS: Energy Harvesting, RF Energy, Voltage Doubler, Impedance Matching, Rectenna