

▶▶▶ SYSTEM AND METHOD OF ELECTRIC FIELD ENERGY HARVESTING FROM LIGHTING FROM LIGHTING FOR INTERNET OF THINGS

▶▶▶ Abstract

This technology relates to a method for electric field energy harvesting to provide energy to autonomous communications systems such as wireless sensor networks (WSNs) and Internet of Things (IoT) devices, architectures.

The present invention provides a system and method for exploiting electric field directly benefitting from said electric field, which is directly adaptable to existing infrastructures while at the same time resolving circuit complexity.

Therefore, the present invention is devised under the recognition that energy harvesting from electric field by means of a specially configured compact energy harvesting means remains a need.



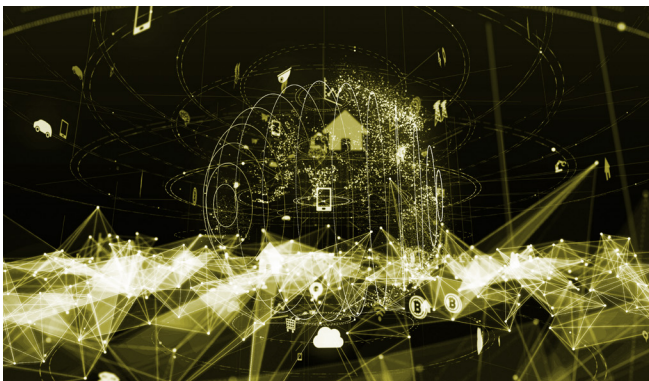
▶▶▶ Problem solved with the technology

There is plenty of energy harvesting technologies in the state of the art, including applications making use of electric field to provide energy. The counterparts of electric field energy harvesting techniques depend strongly on environmental conditions, grid-based variables or any other uncontrollable parameters. In other words, electric field is the only source that is neither intermittent nor dependent on the load. As the voltage and the frequency are firmly regulated and maintained, the electric field is therefore stable and predictable in its behavior. Thus, it can be referred as the most promising way to compose long-term and self-sustainable communication systems notwithstanding the ambient factors.

The need for energy efficient solutions by encouraging battery-less systems which accordingly enables energy harvesting communications.

Primary object of the present invention is to provide a system and method of electric field energy harvesting to power wireless sensor networks.

A further object of the present invention is to provide a harvesting plate in the form of a sheet element to collect the electric field.



Potential Application

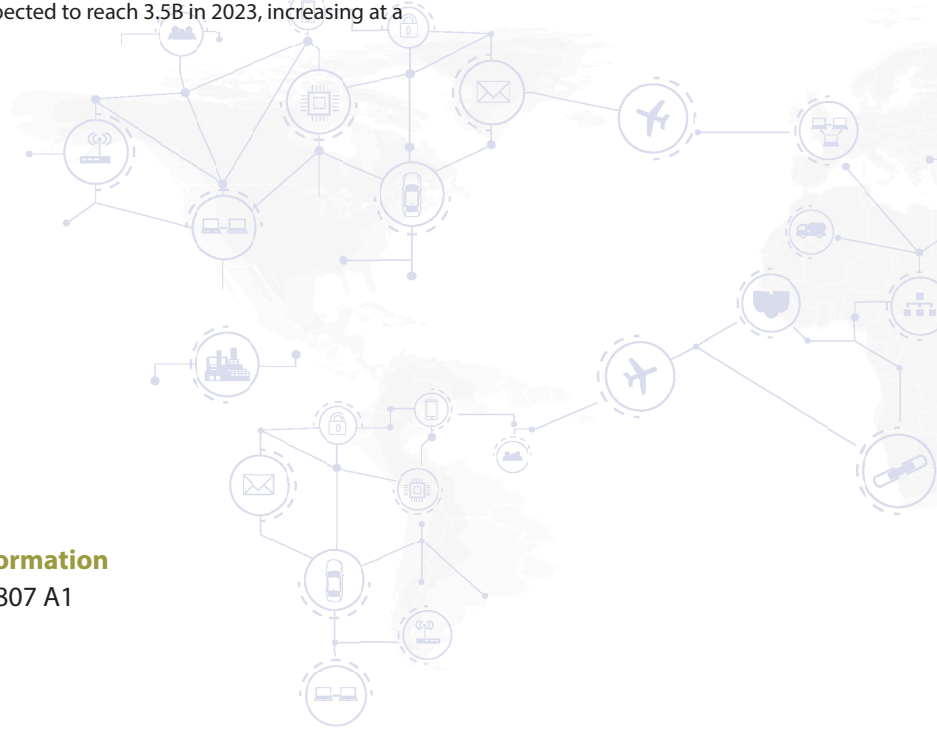
Autonomous communications systems such as wireless sensor networks (WSNs) and Internet of Things (IoT) devices

Customer Benefits

This technology provides an energy harvesting system that enables ease of implementation, reduces circuit complexity, and provides highly increased efficiency without any interruption, so that it allows self-sufficient wireless sensor networks to be built for IoT applications such as online condition monitoring, asset management and smart control. When comparing the invention with the related prior art which is bulky, hard to employ and operating as reducing the luminaire efficiency, the present invention affords a more enhanced system eliminating these disadvantages.

Market Trends

Worldwide technology spending on the IoT to reach \$1.2T in 2022, attaining a CAGR of 13.6% over the 2017-2022 forecast period according to IDC. IoT Analytics predicts the global market for Internet of Things is expected to grow 37% from 2017 to \$151B in 2018. Ericsson is forecasting the number of cellular IoT connections is expected to reach 3.5B in 2023, increasing at a CAGR of 30%. (Forbes)



Additional Technical Information

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