

## The Batteryless Wi-Fi Backscatter System and Method for Improving the Transmission Range

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**Abstract :** The Internet of things (IoT) system has attracted attention. IoT is a technology to connect all the objects to the internet as well as computer. IoT makes it possible for providing more data interoperability methods for an application purpose. Among the IoT technology, the research of devices so that they can communicate without power supply has been actively conducted. Batteryless system permits us to communicate without power supply devices. In this paper, batteryless backscatter system is used as a tag. And mobile devices which are embedded wireless fidelity (Wi-Fi) chipset are used as a reader. The backscatter tag can be obtained Internet connectivity from the reader. Conventional Wi-Fi backscatter system has limitation in the transmission range. In this paper, the proposed algorithm can be obtained improved reliability as well as overcoming the limitation about transmission range.

**Keywords :** Ambient RF, Backscatter, Batteryless communication, Energy-harvesting, IoT, RFID, Tag, Wi-Fi

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