Abstracts

Theoretical and Experimental Development of 10 and 35 GHz Rectennas

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A 35 GHz rectenna has been developed with 39% conversion efficiency. The rectenna uses a microstrip dipole antenna and a commercially available mixer diode. Over 60% conversion efficiency was demonstrated using this diode at 10 GHz. A theoretical analysis was derived to predict the performance of the rectenna. The analysis is a useful tool for device and circuit design. The theoretical and experimental results should have many applications in microwave power transmission and detection.

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