Abstracts

Laminated active integrated amplifier antenna arrays for a space solar power satellite

S. Kawasaki, Y. Kido and T. Takano. "Laminated active integrated amplifier antenna arrays for a space solar power satellite." 1999 Transactions on Microwave Theory and Techniques 47.9 (Sep. 1999, Part II [T-MTT] (Special Issue on Multilayer Microwave Circuits)): 1901-1909.

In this paper, as one example of an application of the active integrated antenna technique, a design method and experimental data of the active integrated amplifier antenna array are reported for microwave power transmission in the Space Solar Power Satellite 2000 system. The stacked structure of a unit cell in the array proposed here consists of three layers: the amplification circuit layer, radiation layer, and coupling layer. By incorporating 2/spl times/2 unit cells with the combination of a directional coupler and an FET amplifier, a light unit patch plate with weight of 200 g and effective radiated power of 25.6 dBm is fabricated and operated at 2.45 GHz.

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