Abstracts

A 6.5 GHz-11.5 GHz Source Using a Grid Amplifier with a Twist Reflector

M. Kim, E.A. Sovero, J.B. Hacker, M.P. De Lisio, J.J. Rosenberg and D.B. Rutledge. "A 6.5 GHz-11.5 GHz Source Using a Grid Amplifier with a Twist Reflector." 1993 Transactions on Microwave Theory and Techniques 41.9 (Oct. 1993 [T-MTT] (Special Issue on Quasi-Optical Techniques)): 1772-1774.

We have constructed and tested an oscillator using a grid amplifier with external feedback from a twist reflector. The twist reflector serves two functions--it changes the output polarization to match the input, and its position sets the feedback phase. This permits a wider tuning range than has been possible with previous grid oscillators. The source could be continuously tuned from 8.2 GHz to 11.0 GHz by moving the twist reflector. By moving the polarizer and mirror in the twist reflector independently, a 1.8-to-1 frequency range from 6.5 GHz to 11.5 GHz was achieved. The peak effective radiated power was 6.3 W at 9.9 GHz.

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