Abstracts

20-GHz Power Combining Slot-Oscillator Array

B.K. Kormanyos and G.M. Rebeiz. "20-GHz Power Combining Slot-Oscillator Array." 1994 Microwave and Guided Wave Letters 4.7 (Jul. 1994 [MGWL]): 226-228.

A four-element power-combining array of quasi-optical slot oscillators has been constructed at 20 GHz. The array is placed on a dielectric substrate lens to increase the directivity and the effective isotropic radiated power (EIRP). The array delivers a total power output of 68 mW with an effective isotropic radiated power of 4.4 W. The DC to RF efficiency of the array is 12%. The substrate lens approach provides a planar design that eliminates substrate mode problems and, therefore, is easily scaled to millimeter-wave frequencies.

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