Abstracts

Spatial power splitting and combining based on the Talbot effect

T.J. Tayag, M.B. Steer, J.F. Harvey, A.B. Yakovlev and J. Davis. "Spatial power splitting and combining based on the Talbot effect." 2002 Microwave and Wireless Components Letters 12.1 (Jan. 2002 [MWCL]): 9-11.

The Talbot effect, a multimode interference phenomenon, is investigated as a technique for combining power from solid-state devices in order to generate higher levels of microwave and millimeter-wave power in a process referred to as quasioptical or spatial power combining. We explore the feasibility of using the Talbot effect to implement a 1 /spl times/ 8 power splitter and an 8 /spl times/ 1 power combiner at 94 GHz. We report the first demonstration of the multimode interface phenomenon in a planar waveguide at 8 GHz.

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