Abstracts

Spatial Power Combining Oscillators Based on an Extended Resonance Technique

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Several spatial power combining oscillators employing an extended resonance technique have been designed and fabricated for the first time on single layer microstrip structures. Power combining efficiency, circuit tolerance to individual device variations and the effect of device failures on circuit performance were studied. Results obtained indicate exceptional circuit tolerance to individual device parameter variations as well as to device failures. The combiners described herein were designed and operated at 8 GHz with effective radiated powers of 0.22 W, 0.64 W and 4.3 W for a two, four and a nine device combiner, respectively.

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