Abstracts

An Extended Resonance Spatial Power Combining Oscillator

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A new circuit topology is presented for a spatial power combining oscillator based on an extended resonance technique. This oscillator uses annular slot antennas as the radiating elements and is more compact than the extended resonance circuits previously reported. A nine device power combining oscillator has been designed, fabricated and tested at the operating frequency of 10.11 GHz. The radiation patterns in both E and H plane have been measured and compared with the theoretical patterns. An effective isotropic radiated power of 2.4 W has been obtained from the nine device combiner.

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