

Abstracts

Microwave Power Combination Using a Bifurcated Waveguide and a Reflecting Plate

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A simple microwave power combining circuit is proposed. The coupling circuit is constructed of a bifurcated rectangular waveguide which is especially suitable for high power combination. In this circuit, there is a thin conductor plate perpendicular to the E plane which acts as a reflector for only higher modes, so that the reflected wave is injected back into oscillators for mutual synchronization. Both analytical and experimental results show that a maximum power-combining efficiency near 100 percent is achievable.

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