

Design of High-Performance Power-Distributed Amplifier Using Lange Couplers (Dec. 1994, Part II [T-MTT])

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An innovative topology of distributed amplifier based on input and output Lange couplers is presented. The modified operation mechanism of the new configuration, in comparison to the conventional distributed amplifier, determines a remarkable improvement of the output power, power-added efficiency, and small signal gain. The principle of the new amplifier topology, the theory, and several analytical results are discussed extensively. In addition, an accurate study and comparison between the performance of the Lange coupler distributed amplifier and the conventional distributed amplifier confirm the advantages of the configuration suggested. The Lange coupler distributed amplifier will be proved suitable in either large or small signal, as well as wide or narrowband applications.

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