

GG

POWER FET AMPLIFIERS

Chairman: Karl B. Niclas—Watkins-Johnson Company

Session Abstract: The development of narrow and broadband GaAs FET amplifiers has progressed at a steady pace. Output power as high as 12 watts has recently been achieved at 20 GHz by means of combining the output power of 2 watt power FETs. Output power of 1 watt across the 6–18 GHz frequency band has become reality. The second paper describes such an amplifier using a new ceramic technology especially addressing the requirements of high power circuits. The optimum design of broadband distributed power amplifiers has occupied a number of researchers. The third paper addresses this problem by designing a circuit that provides a proper match to each device across the entire frequency band resulting in greatly improved power performance. Higher systems efficiencies have been achieved by series biasing a number of devices using the principle of current sharing. A four-cell monolithic MMIC chip is the subject of the fourth paper. The final presentation is concerned with the maintenance of FET power amplifier efficiency when reducing the amplifier's input power. The solution discussed makes use of programmed drain and gate bias voltages as functions of the output power backoff.

10:30 a.m.–12:00 noon, Thursday, June 15, 1989
Terrace Theater