Abstracts

A high power and high efficiency monolithic power amplifier for local multipoint distribution service

M.K. Siddiqui, A.K. Sharma, L.G. Callejo and R. Lai. "A high power and high efficiency monolithic power amplifier for local multipoint distribution service." 1998 MTT-S International Microwave Symposium Digest 98.2 (1998 Vol. II [MWSYM]): 569-572.

A high power and high efficiency monolithic power amplifier operating from 27.5 to 29.5 GHz is presented for local multipoint distribution service (LMDS). Using 0.15 /spl mu/m InGaAs-AlGaAs-GaAs pseudomorphic HEMT (PHEMT) devices, the two stage power amplifier on 4 mil GaAs substrate demonstrated greater than 16 dB small signal gain, 32 dBm (1.6 watts) power with 35% power-added-efficiency. The amplifier attained peak output power of 33.9 dBm (2.4 watts) and peak power-added efficiency of 37%. At the peak power level, the amplifier exhibited power densities in excess of 640 mw/mm which is the highest output power density attained by Ka-band monolithic power amplifiers.

❑ Return to main document.