Abstracts

Quasi-Optical Antenna Array Amplifiers

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Several quasi-optical transmission wave amplifiers are presented: (1) a two-level power-combining PHEMT patch-antenna lens amplifier with 8 dB of absolute power gain at 9.7 GHz used for beamforming and beam-switching; (2) a saturated class-A polarization-preserving 24-MESFET patch array which produces 0.7 Watts at 10 GHz with 21 % power-added efficiency; and (3) an X-band 2-stage low-noise CPW PHEMT amplifier cell using anti-resonant slot antennas with 21.7 dB active gain, 3.2 dB noise figure and a 6 % 3-dB bandwidth.

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