Abstracts

High Efficient C-Band 27W Internally-Matched GaAs FET for Space Application

M. Kohno, T. Fujioka, K. Hayashi, Y. Itoh, Y. Ikeda, K. Seino and M. Yamanouchi. "High Efficient C-Band 27W Internally-Matched GaAs FET for Space Application." 1994 MTT-S International Microwave Symposium Digest 94.1 (1994 Vol. I [MWSYM]): 273-276.

A C-Band 27W internally-matched GaAs FET for space application has been developed. Bias conditions and output matching circuits were optimally designed by using the gate width of 18.9mm X 4 FET chips with stepped recess structure. As a result, power-added efficiencies (PAE) of 50±3% and P2dB of 44.3±0.4dBm have been obtained in the frequency range from 3.7 to 4.2 GHz. For space applications, the reliability tests based on the European Space Agency Spec. (ESA) have been performed, and we have observed no failure during 3000hrs under the RF overdrive operation at the condition of 5dB compression. It was confirmed the our newly developed device had high enough reliability for space application.

❑ Return to main document.