Abstracts

High Yield X-Band GaAs Power MMIC Insertion Into the 160-W MODAR Wind Shear Detection/Weather System

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This paper describes the successful insertion of a high yield 4-W GaAs X-band power MMIC into the solid-state transmitter of the MODular Avionics Radar (MODAR) weather system. To date, over 15000 4-W MMIC's have been delivered with a combined dc/RF test yield averaging 39%. The design and fabrication of the MMIC's are presented along with statistical test data on over 46000 MMIC's. The integration of the MMIC's into a higher level 12-W hybrid assembly and an 85-W power module are also discussed. Two 85-W modules are combined in the transmitter to achieve a nominal power output of 160 W. Statistical test data on these higher level assemblies is presented. This work demonstrates the viability of inserting GaAs power MMIC's into commercial systems.

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