Abstracts

L-Band High Power Transmit/Receive Module for Electronically Scanned Cylindrical Array Radar

P. Iassogna, G. Savit, D. Chau, M. Gallo, M. Kumar and P. Valentino. "L-Band High Power Transmit/Receive Module for Electronically Scanned Cylindrical Array Radar." 1993 MTT-S International Microwave Symposium Digest 93.2 (1993 Vol. II [MWSYM]): 497-500.

This paper presents the development of an L-band solid-state transmit/receive (T/R) module operating over 1.2 - 1.4 GHz for an electronically scanned array radar. Silicon (Si) bipolar transistors are used in the high power amplifier in the transmit channel and GaAs FETs are used for the low-noise amplifier in the receive channel. Key performance parameters of the T/R module are an average output power of >280w peak, (100µs pulse width, 10% duty cycle) reflecting a gain of 23.5dB, noise figure of <2.8dB (LNA N. F. <1.2dB), receive gain of >32.5dB, and MTI improvement factor of 70dBc (pulse-to-pulse stability).

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