Abstracts

Multifunction Chip Set for T/R Module Receive Path (1990 [MCS])

D. Willems, I. Bahl, M. Pollman, J. Jorgenson, E. Griffin, M. Coluzzi, S. Tantod and C. Andricos. "Multifunction Chip Set for T/R Module Receive Path (1990 [MCS])." 1990 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 90.1 (1990 [MCS]): 95-98.

This paper presents design and test results for multifunction MMICs for C-Band Transmit/Receive (T/R) modules. This small signal chip set contains the entire receive path (5 stages of amplification and 10 passive devices) in just three chips. These IC's fabricated with the Multi-functional Self-Aligned Gate (MSAG) process, demonstrate a high level of integration, excellent performance and a good yield. The variable gain low noise amplifier has 30 ± 1 dB gain, 2.5 dB noise figure, the phase shifter/SPDT switch has 8 ± 1 dB loss and the buffer amplifier has 6.5 ± 0.2 gain and 3.5 dB noise figure. Average yield for these circuits was 40% or better.

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