

CURRENT STATUS OF RECEIVER LOW-NOISE TECHNOLOGY

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Abstract

Significant advances have been made in the capability of both microwave and millimeter wave receivers over the past few years. An integral part of this ever-changing technology, which is being developed to meet the challenge of expanding system requirements, is the rapid advancement of low-noise receivers. The state-of-the-art of Receiver Low-Noise Technology for

both the microwave and millimeter wave regions will be presented. The techniques of optimum coupling of semiconductor devices with low-noise embedding circuits for various receiver components (for example, paramps, FET's, mixers, etc.) will be explored. The choice of transmission lines, particularly in the millimeter wave region, will be presented. Performance criteria in evaluating low-noise systems for various receiver configurations, as well as future trends in millimeter receivers, will also be given.