Abstracts

A Logarithmic Distributed Amplifier

N. Nazoa-Ruiz and C.S. Aitchison. "A Logarithmic Distributed Amplifier." 1990 MTT-S International Microwave Symposium Digest 90.2 (1990 Vol. II [MWSYM]): 753-756.

This paper describes a logarithmic amplifier which uses the distributed amplifier as the basic amplifying element. The successive detection technique is used and leads to a logarithmic amplifier with a 65 dB dynamic range operating over the band 2 to 6 GHz with a deviation from linearity in the middle of the band of +/- 1.0 dB over the dynamic range. Over the specified band a further deviation of +/- 1.3 dB occurs. The effect of varying temperature from 0°C to 50°C increases this figure to +/- 1.7 dB. The rise and fall times (including the associated video amplifier) are 7nS and 20nS respectively.

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