Abstracts

Passive FET MMIC Linearizers for C, X and Ku-Band Satillite Applications (1993 [MCS])

A. Katz, S. Moochalla and J. Klatskin. "Passive FET MMIC Linearizers for C, X and Ku- Band Satillite Applications (1993 [MCS])." 1993 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 93.1 (1993 [MCS]): 155-158.

The design and measured performance of GaAs MMIC linearizers for use with space-borne traveling wave tube amplifiers (TWTAs) are presented. New space communications technology requires highly linear amplifiers. Linearizers correct for amplifier distortion to provide the needed linearity. The linearizers described in this paper operate at C, X and Ku-band, and are believed the first to be realized in MMIC form. They are based on a passive FET design similar to that of MMIC switches and attenuators. MESFET varactors and voltage variable resistors are used as control elements. They provide more than 2.5 GHz of bandwidth at Ku-band with an improvement of greater than 10 dB in TWTA carrier-to-intermodulation ratio (C/I), and with a phase change of less than 5 degrees.

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