Abstracts

An F-Band Resistive Mixer Based on Heterostructure Field Effect Transistor Technology

I. Angelov, H. Zirath, N. Rorsman, C. Karlsson and R.M. Weikle, II. "An F-Band Resistive Mixer Based on Heterostructure Field Effect Transistor Technology." 1993 MTT-S International Microwave Symposium Digest 93.2 (1993 Vol. II [MWSYM]): 787-790.

A fundamentally pumped millimeterwave resistive mixer based on an HFET technology working at F-band (90-140 GHz) is described for the first time. Nonlinear simulations have been performed for this mixer based on an specially designed double delta-doped pseudomorphic HFET device developed for this application. A minimum conversion loss between 12 to 13 dB was measured with the RF fixed at different frequencies between 108 to 114 GHz at an RF power of -13 dBm. Both theoretical and experimental results are presented in this paper.

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