

Abstracts

Design Translation of an X-Band Multifunction PHEMT MMIC (1994 [MCS])

W. Yau, H. Kanber, C.S. Wu, B.M. Paine, S. Bar, Z. Bardai, S. Janesch, D. Kaputa and W. Fabian. "Design Translation of an X-Band Multifunction PHEMT MMIC (1994 [MCS])." 1994 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 94.1 (1994 [MCS]): 201-204.

Design Translation is demonstrated at X-Band utilizing a multifunction MMIC as a test vehicle. The MMIC circuit consisting of a switch, LNA and attenuator is fabricated using PHEMT materials at two different GaAs foundries (Hughes and Martin Marietta, formally GE). The circuits demonstrated reproducible performance without compromising RF yield. The excellent performance: a noise figure as low as 1.1 dB and a gain of over 17 dB at 10 GHz was obtained with only very minor design translation. The results are believed to be the first ever reported on MMIC design translation using PHEMT materials.

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