Abstracts

A W-Band Source Module Using MMIC's

H. Wang, K.W. Chang, D. Smith, G.S. Dow, K.L. Tan, A.K. Oki and B.R. Allen. "A W-Band Source Module Using MMIC's." 1995 Transactions on Microwave Theory and Techniques 43.5 (May 1995 [T-MTT]): 1010-1016.

A W-band source module providing 4-GHz tuning bandwidth (92.5-96.5 GHz) has been developed. This module consists of three MMIC chips: a 23.5 GHz HBT VCO, a 23.5-94 GHz HEMT frequency quadruple and a W-band three-stage HEMT output amplifier, all fabricated in TRW production lines. It exhibits a measured output power of 3 dBm at 94-95 GHz and a 3-dB tuning bandwidth greater than 3 GHz, with a phase noise of -92 dBc/Hz at 1 MHz offset. This work demonstrates a new and efficient way to implement high performance W-band source. Its wide tuning bandwidth with good phase noise performance, as well as design simplicity, makes this approach attractive for many W-band system applications.

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