Abstracts

51 GHz Frontend with Flip Chip and Wire Bond Interconnections from GaAs MMICs to a Planar Patch Antenna

G. Baumann, H. Richter, A. Baumgartner, D. Ferling, R. Heilig, D. Hollmann, H. Muller, H. Nechansky and M. Schlechtweg. "51 GHz Frontend with Flip Chip and Wire Bond Interconnections from GaAs MMICs to a Planar Patch Antenna." 1995 MTT-S International Microwave Symposium Digest 95.3 (1995 Vol. III [MWSYM]): 1639-1642.

In this paper the difference between flip chip and wire bond technology is demonstrated. Test assemblies with coplanar waveguides have been attached in flip chip and wire bond technology and measured up to 75 GHz. Further the influence of a metallic lid to a coplanar wavegnide structure is examined. To compare flip chip and wire bond interconnections, 51 GHz frontends with GaAs devices in coplanar waveguide technology have been realized. In one frontend the low noise amplifier (LNA) is connected to a planar patch antema by wire bonding and in second by a tlip chip attachment. RF evaluations show the clear advantage of the flip chip version due to the lower insertion loss of the flip chip interconnections and the higher flexibility of mounting the MMICS directly on the back structure of the planar patch antenna, leading to reduced losses of the feedline.

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