Abstracts

Development of a Commercial, 38 GHz, Communication Link

W. Gulloch, M. Politi, R. Nobili, M. Amati and G. Colombo. "Development of a Commercial, 38 GHz, Communication Link." 1993 MTT-S International Microwave Symposium Digest 93.2 (1993 Vol. II [MWSYM]): 681-684.

This paper presents the work which has been carried out in the development of commercial radio links at Millimeter (MM) wave frequencies. The first part deals with the system aspects while in the second, results are presented for the MM wave components which have been developed. A common system approach has been used which is modular thus enabling the economic reuse of most of the lower frequency system functions. The modulation options which have been considered and their effect on the millimeter wave components are discussed. From this analysis a low cost system approach is presented based on the use of MMICs and broadband RF components. Offset 4QAM modulation (40QAM) was used in order to provide a good compromise between amplifier linearity and spectral efficiency. This system design has been implemented at 38 GHz and various system results are presented.

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