Abstracts

A 38/76 GHz automotive radar chip set fabricated by a low cost PHEMT technology

A. Werthof, H.J. Siweris, H. Tischer, W. Liebl, G. Jaeger and T. Grave. "A 38/76 GHz automotive radar chip set fabricated by a low cost PHEMT technology." 2002 MTT-S International Microwave Symposium Digest 02.3 (2002 Vol. III [MWSYM]): 1855-1858 vol.3.

Two complex transmit MMICs have been developed for the conversion of a 38 GHz VCO signal to 76 GHz. They consist of a 38 GHz driver amplifier, a frequency doubler and 76 GHz output amplifiers. These MMICs achieve a saturated output power of 14 dBm at 76 GHz and a maximum conversion gain of 9 dB and 12 dB, respectively. The transmit chips are supplemented by a 38 GHz voltage-controlled oscillator with 1.5 GHz tuning bandwidth and 10 dBm output power. The developed MMICs are designed for flip-chip mounting and have been fabricated by a production oriented PHEMT technology. They are suited for low cost automotive radar systems.

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