Abstracts

A highly integrated MMIC chipset for 60 GHz broadband wireless applications

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A full and flexible MMIC (monolithic microwave integrated circuit) chipset has been developed for 60 GHz broadband wireless applications. It is based on several circuits operating in the 55-65 GHz frequency range. The MMICs have been fabricated on commercially available 0.25 and 0.15 /spl mu/m GaAs pHEMT processes. The chipset is focused on a MMIC multifunction chip (MFC) including a sub-harmonic mixer and an LO buffer allowing carrier 2/spl times/LO suppression and image rejection. Several frequency multipliers by 2, 3 and 4 have been produced for the LO supply chain and use balancing topologies leading to fundamental or even-harmonics suppression improvement. Finally, a complete family of low noise/medium power amplifiers is described. All the circuits have been designed in order to ease integration, to reduce size and to achieve the cost requirements for such systems.

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