Abstracts

A highly integrated transceiver module for 5.8 GHz OFDM communication system using multi-layer packaging technology

Kyutae Lim, A. Obatoyinbo, A. Sutono, S. Chakraborty, Chang-Ho Lee, E. Gebara, A. Raghavan and J. Laskar. "A highly integrated transceiver module for 5.8 GHz OFDM communication system using multi-layer packaging technology." 2001 MTT-S International Microwave Symposium Digest 01.3 (2001 Vol. III [MWSYM]): 1739-1742 vol.3.

A highly integrated transceiver module for 5.8 GHz OFDM communication system is presented. The antenna and filter are directly fabricated on the module using multi-layer packaging technology in order to reduce size and interconnection losses. A cavity backed patch antenna with a vertical feed and an embedded 3D filter have been designed and integrated on the package using a low-temperature cofired ceramic (LTCC) process. RF functional blocks including PA, LNA, mixers and VCO are developed using GaAs-based MMICs and are attached on the surface of the LTCC board. RF blocks are vertically stacked and connected through via structures. The specifications of the functional blocks have been determined and verified through system simulations based on the IEEE 802.11a standard. The total size of the module is 14/spl times/19/spl times/2 mm/sup 3/. Measurement and simulation results of the components and the module are also presented.

❑ Return to main document.