Abstracts

Broadband highly integrated LTCC front-end module for IEEE 802.11a WLAN applications

C.-H. Lee, S. Chakraborty, A. Sutono, S. Yoo, D. Heo and J. Laskar. "Broadband highly integrated LTCC front-end module for IEEE 802.11a WLAN applications." 2002 MTT-S International Microwave Symposium Digest 02.2 (2002 Vol. II [MWSYM]): 1045-1048 vol.2.

This paper presents the design, development and measurement of a highly-integrated and high linearity RF front-end module with integrated filter for IEEE 802.11a wireless LAN applications. The developed front-end MMIC includes LNA, PA, and SPDT switch integrated on a single chip in a commercial GaAs MESFET process. An embedded 3-D band pass filter has been integrated on the front-end module using LTCC technology. The performance of the front-end module is compliant to the HiPERLAN-I and IEEE 802.11a RF standards. The LNA exhibits 16.5 dB of gain, 2.1 dB of noise figure and IIP3 of 2.8dBm. The PA shows the 24 dBm output power and IM3 of better than 25dBc. The SPDT switch demonstrates 1.2 dB of insertion loss and 28dBm of input P1dB. To the best of our knowledge, this is the first report on C-band PA-LNA-Switch integrated on a single chip with embedded LTCC filter.

❑ Return to main document.