A 0.5-14-GHz 10.6-dB CMOS Cascode Distributed Amplifier

Ren-Chieh Liu[+], Chin-Shen Lin[*], Kuo-Liang Deng[*] and Huei Wang[*+]

[+]Dept. of Electrical Engineering and [*]Graduate Institute of Communication,

National Taiwan University, Taipei, Taiwan, R.O.C.

Phone: +886-2-23635251 ext.547 Fax:+886-2-23638247 e-mail: rcliu@ntu.edu.tw

A 0.5-14-GHz distributed amplifier (DA) using 0.18-μm CMOS technology has been presented. It demonstrates the highest gain bandwidth product reported for a CMOS amplifier using a standard Si-based IC process. This DA chip achieves measured results of 10.6 ± 0.9 dB gain, NF between 3.4 and 5.4 dB with good return losses better than from 0.5 to 14 GHz. The measured output IP3 and P_{1dB} are +20 dBm and +10 dBm, respectively, from 2 to 10 GHz.