Abstracts

An internally matched LTCC 3G W-CDMA 180 watt LDMOS power amplifier

J. Estes, P. Piel, G. Shapiro, A. Pavio, M. Hurst, J. Call and G. Funk. "An internally matched LTCC 3G W-CDMA 180 watt LDMOS power amplifier." 2001 MTT-S International Microwave Symposium Digest 01.2 (2001 Vol. II [MWSYM]): 1357-1358 vol.2.

A wide band CDMA LDMOS power transistor, with internal RF matching and bias networks, fabricated on LTCC (Low Temperature Cofired Ceramic) substrates, has been developed. The internally matched packaged device can be configured to deliver output power of 180 watts, while providing third order inter-modulation distortion products less than -40 dBc, 20% efficiency, and 12 dB of gain. The terminal impedances of the packaged LDMOS transistor, at the gate and drain leads respectively, are greater than 5 /spl Omega/. The LTCC elements each contain embedded passive L-C circuitry, forming the input and output matching networks. These networks are designed to transform to a high level of impedance, to the source and load impedance targets required by the devices in order to achieve optimal wide band CDMA performance.

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