A non-uniform drain line distributed power amplifier (DPA) employing a broadband impedance transformer is presented. The DPA is based on GaAs PHEMT technology. The impedance transformer employs asymmetric coupled lines and transforms a low output impedance of the amplifier to a standard 50 Ω transmission line. The output power of approximately 600 mW, with an associated gain of 9 dB and PAE greater than 30 percent, is demonstrated in the frequency range from 10 to 1800 MHz.