**Common-Mode Termination Requirements in Concurrent Dual-Band Push-Pull Power Amplifiers**

ABSTRACT

            Concurrent dual-band switch-mode power amplifiers require high common-mode impedance at their intermodulation frequencies. Baluns utilizing quarter-wave effects only present perfect open common-mode impedance at their design frequency. Attempting to use a balun in a dual-band push-pull power amplifier without taking the new dual-band requirements for common-mode impedance into account will result in efficiency loss. However, the addition of some transmission lines can move impedance to those specific frequencies by rotation of the common-mode impedance without affecting the differential mode match.