970 Montee de Liesse, Suite 308
Ville St-Laurent, Quebec, H4T-1W7, Canada
Tel 514-335-6227 Fax 514-335-6287
E-mail: focusmw@compuserve.com
Website: http://www.focus-microwaves.com

Application Note 29

Using Prematched Probes for On-Wafer Load Pull

Passive Load Pull Systems, using either mechanical tuners (from Focus Microwaves or Maury Microwave) or electronic tuners (from ATN Microwave) offer some advantages over active systems (like ALPS of Focus Microwaves) such as higher resolution, frequency range and pre-calibration capability, lower cost, and (at least the mechanical ones) high power handling capability. However, for on-wafer tests, passive systems bear the problem of limited tuning range, due to probe and cable loss. Focus Microwaves offers the alternative of a "long neck" tuner configuration in order to avoid the cable loss, but still the tuning range is limited to ≈0.7, especially at higher frequencies.

An other alternative promisses to be the use of "prematched probes", offered by GGB Industries and Cascade Microtech. These probes do not have a 50 Ω characteristic impedance and can shift, this way, the center of the Smith Chart towards lower impedance values, and thus the tuning range of the passive tuners.