

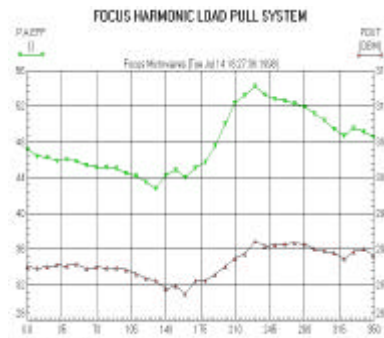
Technical Note 2-98

Harmonic Load Pull System Upgrade For Maury Microwave ATS[®] Load Pull Systems

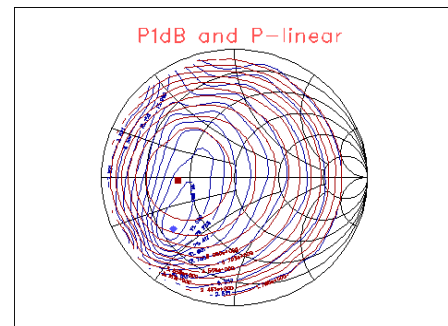
Programmable Harmonic Tuners (PHT) of FOCUS Microwaves can be used to upgrade automatic load pull systems ATS[®] of Maury Microwave already in operation, without using diplexers, triplexers or active modules. Each FOCUS harmonic tuner provides very high reflection factors (>0.9) at both harmonic frequencies 2fo and 3fo, independently tunable from the fundamental frequency impedance, thus allowing both Harmonic Phase Sweep, continuous over 360°, and automatic Peak Search of Output Power, Power Added Efficiency, ACPR, P1dB or Intermod as a function of the phase of the second and third harmonic impedance. The benefits of such a test capability are known to be up to 15% higher amplifier efficiency and up to 8dB better linearity.

Required Components for the ATS[®] Upgrade:

- One or two programmable Harmonic tuners (PHT) for frequencies from 400 MHz up to 60 GHz.
- One PHT tuner controller for the ATS[®] IBM PC
- "WinPower" Load Pull Software, version 6.0 for Windows 95/98 or NT, with Harmonic Tuning and ATS[®] option.



Harmonic Phase Sweep of PAE and Pout



Compression Load Pull Contours Generated using "WinPower"

