

SESSION III

Design For Manufacturability
Chair: Art Geissberger, Alpha Industries

This session contains four papers which discuss improvements in MMIC chips to enhance their yield and manufacturability. The first paper discusses different GaAs structures used in protection networks to guard MMICs against electrostatic discharge (ESD); the paper considers both ESD protection and high-frequency performance.

The second demonstrates how two K_a -band IC designs, a MESFET-based oscillator and a PHEMT-based amp, benefit from the use of coplanar waveguide -- which can improve performance and yield by eliminating the need for backside vias.

The third paper discusses device selection and design optimization applied to yield improvement, while shrinking the chip size, of X-band, high-power MMICs. The final paper from Texas Instruments describes the use of a 2-D numerical simulator to perform a DOE to relate small signal performance to physical parameters and process variables. Key factors affecting small signal performance variability are identified.