AA

NEW DEVELOPMENTS IN OSCILLATOR AND MIXER TECHNOLOGY

Chairman: M. Dydyk—Motorola Inc.

Session Abstract: Oscillator developments including a low noise HBT design and millimeter-wave monolithic circuit realizations are discussed. Novel broadband mixer circuits are reported with operations to 40 GHz.

The first paper of the session describes recent results on a low phase noise Ku-band oscillator implemented using a fully self aligned AlGaAs/GaAs heterojunction bipolar transistor (HBT). This is followed by a paper reporting the highest frequency Gunn oscillator device using InP.

The third paper describes the design and performance of a monolithic integrated GaAs varactor tuned VCO. The circuit combines a pair of IMPATT diodes to excite a half wavelength microstrip resonator.

The fourth paper advances a mixer technology by describing the design, fabrication and performance advantages of a double balanced mixer that uses a new miniature beam lead crossover quad instead of a ring quad.

The final paper considers a second harmonic mixer from 4 to 40 GHz, with a 2 to 20 GHz LO using an 8 diode anti-parallel bridge in a balanced microstrip circuit.

4:00 pm–5:30 pm, May 26, 1988
Jacob Javits Convention Center, Hall 1E
Room 3