

RF and Microwave Integrated Circuit Design (RP 4.2.33)

RF Analog Circuits: Capacitance and Inductance in VLSI circuits, bandwidth estimation technology, design of high frequency amplifiers, design of low noise amplifiers, design of mixers and R.F. amplifiers, architecture of R.F. transmitters and receivers. (6)

Special Circuits: Voltage controlled oscillators, ring oscillators, phase locked loops. (3)
Monolithic Microwave Integrated Circuits: Introduction, advantages and tradeoffs, applications- satellite communications, wireless LANs, microwave links, cellular networks, choosing among device technologies: GaAs FET, GaAs HBT, etc. (6)

Network basics-different network parameters. (3)

Processing and layers. (3)

Passive MMIC elements and models, active MMIC elements and models. (8)

Biasing, microwave amplifiers, gain definitions - G_{max} , MSG, Unilateral gain, conjugate matching. Stability analysis - odd mode, even mode analysis. (4)

Packaging and testing. (3)