

EEE 5371 High Frequency Amplifier Design

Credits: 3 credits

Textbook, Title, Author, and Year: Textbook: *Microwave Transistor Amplifiers*, 2nd ed., G. Gonzalez, Prentice Hall, 1997

Reference Materials: *High Frequency Amplifier Class-Notes*, Rev. '11, J. Bagby, available on Blackboard

Specific Course Information

Catalog Description: Scattering parameters, matching networks and the Smith chart, stability considerations, design to meet various criteria, low noise, broadband, high power design, RF oscillator design, CAD design techniques

Prerequisites: EEE 3300 (Electronics 1), EEL 3470 (Electromagnetic Fields and Waves)

Specific Goals for the Course: This course provides students with a firm foundation in RF amplifier analysis and design techniques. Design considerations include scattering parameters, matching networks, device modeling, stability considerations, and usage of CAD software packages (primarily Agilent ADS and Ansoft Designer).

Brief List of Topics to be covered:

1. Conventional and microstrip transmission lines
2. Two-port networks and scattering parameters
3. Matching network design
4. RF amplifier stability considerations
5. RF amplifier design to meet specific design criteria
6. Broadband and high power RF amplifier design