

MMIC



Component

École Nationale
Supérieure
d'Électrotechnique
d'Électronique
d'Informatique
d'Hydraulique
et des
Télécommunications

In brief

- **Ametys Code:** N8AE11B
- **Open to exchange students:** No

Presentation

Objectives

Design active functions integrated on-chip

Description

- Course: Study planar microwave technologies: hybrid, monolithic (MMIC) Design of RF amplifiers: Transistor biasing, classes of amplification Linearity concepts: P1dB, IM3, IP3, OBO/IBO, efficiency, PAE Transistor stabilization: Stability circle, stability zone, Rollet coefficients (K, B), stabilization methodology, MSG, MAG Gain-optimized amplifier, Fixed-gain amplifier, Low-noise amplifier MMIC design: from transistor to integrated amplifier and extraction of linearity characteristics

- Project: Design of a GaAs MMIC chip: Using OMMIC-foundry library - ED02AH. Design of a LNA (Low-Noise Amplifier) meeting real space equipment specifications (Thales Alenia Space)

Pre-requisites

Transmission Lines