

UE Antennas and Electromagnetic Compatibility



Niveau d'étude
Bac +5



ECTS
3 crédits



Composante
UFR PhITEM
(physique,
ingénierie, terre,
environnement,
mécanique)



Période de
l'année
Automne (sept.
à dec./janv.)

- > **Langue(s) d'enseignement:** Français
- > **Ouvert aux étudiants en échange:** Oui
- > **Code d'export Apogée:** PAX9GIAP

Présentation

Description

The goal of this teaching module is to understand the electromagnetic radiation mechanisms.

This teaching module will be divided into 2 parts

- **Antennas – 16 hours – 2 ECTS**

The aim is to understand how to design and characterize antennas. The following contents will be studied:

- Radiation of a dipole
- Main antenna parameters: radiation pattern, directivity, ...,
- Antennas such as microstrip patch, Antennas network, beamsteering/beamforming antenna array

- **Signal integrity – 10 hours – 1 ECTS**

Basic principles will be explained such as:

- Digital signals: spectral distribution of signals and knee frequency, rise time, overshoot, ringing, crosstalk
- Transmission lines modelling
- Coupling, crosstalk (amplitude, delay), SSN, substrate coupling

- Packaging (processes, single and hybride dies, influence of the package)

Heures d'enseignement

UE Antennas and Electromagnetic Compatibility - CM	CM	16h
UE Antennas and Electromagnetic Compatibility - TD	TD	10h

Période : Semestre 9

Infos pratiques

Lieu(x) ville

› Grenoble

Campus

› Grenoble - Polygone scientifique