

## Master and Engineer Internship: 2020-2021

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Research group : Carbon

**Title : Design and fabrication of RF circuits**

### Abstract :

Since several years, the CARBON Group has developed technological processes for fabricating RF devices (passive and active devices); either with conventional lithography approach or inkjet printing technology. Today, we are looking for the possibility to move towards RF systems like transceivers or others kind of demonstrators. The interest is to validate the potentialities of the new 2D materials, on which we are working now. Therefore, we need to build solutions for RF circuits design.

The main objective of this internship is to build a library of RF devices and to demonstrate its efficiency by designing RF circuits and systems.

### Methodology:

- Based on the available devices, ADS models will be developed and validated with circuits such as filters, ....
- New devices such as antennas will be designed, fabricated and characterized at the frequency of interest, with the possibility of integration in RF circuit.
- Devices will be fabricated using ink-jet printing technology.

**Keywords:** Modelling, design, RF characterization