

# Project proposal

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Title: Signal tracking device  
Supervisor: ...  
Timeframe: Spring 2021

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EPFL Xplore is an interdisciplinary project which aim is to design and develop a Rover to participate in two international competitions: The University Rover Challenge and the European Rover Challenge. As any mobile system, a rover requires a control device to exchange commands and log transmissions, this is the purpose of the Control Station.

## Project description

### Problematic

The goal of this project is to design and build 2 autonomous signal tracking devices: one placed on the rover, the other next to the control station.

The device shall track the origin of the feed received and move the unidirectional antenna towards this direction in order to optimize the gain.

The systems need to be as compact and lightweight as possible to limit the overall weight of the Rover.

The rotative support shall allow for manual control.

### Means

The student shall use an Ubiquiti airMAX NanoStationM 5 GHz loco.

The control board as well as the mechanical parts and actuator are left for the student to choose.

## Reference documents

[1] airMAX NanoStationM 5 GHz loco Station

<https://store.ui.com/collections/operator-airmax-devices/products/nanolocom5>

## Contact

[arman.ehsasi@epfl.ch](mailto:arman.ehsasi@epfl.ch)

[professeur@epfl.ch](mailto:professeur@epfl.ch)