Background and challenges

- Far-field Wireless Power Transfer (WPT) is a technique that may allow us to find alternatives to power up the upcoming huge number of electronic devices that will be part of the so-called Internet of Things (IoT).
- Wireless Sensor Networks (WSN)
  - The limited battery capacity is currently a serious issue for their practical implementation;
  - The environment on where the WSNs are deployed may prevent their battery replacements

Description and innovations

- Passive Wireless Sensor Networks - The nodes do not have any dedicated energy source
  - Localization and wake-up techniques need to be adapted.
  - Nodes that are closer to the transmitter will require less transmitted power

Experimental Results

- Transmitter starts by choosing the node that wants to retrieve information from, by setting the respective wireless power signal
- A scan is performed with full power and the pilot signal is monitored on every beam direction.
- After the whole scan, the direction of maximum received power is known and the transmitter may adapt the transmitted power accordingly