

*Antenna technology/Physics/Wireless communication*

## Master Thesis – “MIMO antennas in Reverberation chamber”

The new WiFi standard utilize the MIMO capability to increase the data throughput. To measure the antenna performance in indoor environment with multi path transmission between units is the use of an reverberation chamber frequently used. This thesis includes antenna development of two different types of MIMO antennas and verify them with measurement in a reverberation chamber.



*Bluetest reverberation chamber*

### Your responsibilities,

- Literature study of the reverberation chamber concept.
- Develop two different antenna arrays for WiFi.
- Measure the antenna parameters in both the anechoic and reverberation chambers.
- Summarize the results in a report usable to Abracon.

### Your background,

- Engineering student in physics, electronics or similar program.
- Eager to learn and develop.

### Details,

- Thesis work credits: 30 ECTS/HP.
- Time period: January-June 2023.
- Application: Before January 15, 2023.
- Location: The work needs partly to be performed at Proant AB in Umeå and thesis includes travels to Bluetest in Gävle for measurements.
- Number of applicants: 1-2
- Earnings: A total sum of 40 000 SEK for Master thesis will be awarded upon the approval of the final report.
- Contact: Jonas Starck, [jonas.starck@abracon.com](mailto:jonas.starck@abracon.com), Tel: 0730-875037, 090-40150

### About us,

**Abracon** is an industry leader in passive components, providing specialized products including timing, inductor and connectivity, RF and antenna solutions through a global distribution network. The site in Umeå consist of the development team origin from the company Proant AB. Abracon acquired Proant AB during 2021 to further extend its antenna offering. <http://www.abracon.com>.