

2022 IEEE Rectenna Design Competition

With an aim to stimulate innovative ideas among students in the area of RF & microwave, the IEEE Islamabad Section Antennas & Propagation Society, Microwave Theory & Techniques Society, Electromagnetic Compatibility Society and Circuits & Systems Society (IEEE MTT/APS/EMCS/CAS) joint chapter is organizing an IEEE Rectenna Design Competition during **August 2022 at SEECS, NUST H-12 Campus, Islamabad, Pakistan.**

Competition Theme:

Design and Develop a Rectenna for Ambient RF Energy Harvesting to Power-up Low-Powered Internet of Things (IoT) Devices

Specifications:

- The rectenna shall be designed for GSM-900 frequency band and able to harvest ambient RF energy available in GSM-900 frequency band
- The antenna shall be an electrically small antenna
- The proposed setup must be able to demonstrate energy harvesting phenomenon in real time.
- The team must explain the theoretical aspects behind the working mechanism of the proposed setup

Eligibility:

- Only currently enrolled students in any Pakistani university may participate.
- The team shall consist of 2-4 students with at least 50% shall be currently enrolled in an undergraduate degree program.
- There shall be a faculty mentor of the team who will guide/supervise the team to design & develop the proposed setup. He will also provide an official letter that the team members are currently enrolled graduate or undergraduate students at the university.

Preparation and Submission of Project Proposals:

Technical proposal (maximum five pages) must include:

- Technical description of the project including specifications, system and circuit design
- Measurement methodology
- Demo plan

How to submit:

Submission package, one single pdf file including:

- Names, short CVs and affiliation of the team members (one page in total)
- Technical project proposal (max five pages)
- An official letter from supervisor stating the current enrolment status of the team members
- Signed letter of commitment from team members to attend the live demo session at the selected venue

The submission package should be addressed to Dr. Noshawan Shoaib via email: noshawan.shoaib@seecs.edu.pk with the subject line "2022 IEEE Rectenna Design Competition". The deadline for submission is **31st May 2022**. Late submission will not be entertained. Each team has to bring the developed hardware on the competition day. The hardware will be handed over to SEecs after the competition.

Venue:

The competition will be held at during **August 2022 at SEecs, NUST H-12 Campus, Islamabad, Pakistan**. The exact dates and timings will be communicated in June 2022.

Evaluation Criteria:

The organizing committee will evaluate the projects based on the following criteria:

- Design and implementation excellence
- Documentation
- Measurement thoroughness
- Quality of the planned demo

Awards:

- 1st Prize: Certificate + 15,000.00 PKR
- 2nd Prize: Certificate + 10,000.00 PKR
- 3rd Prize: Certificate + 5,000.00 PKR

The participation certificates will be given to all participating team members.