

## **Research Assistant Vacancy for RFID Technology Research**

We are currently looking for a committed and research enthusiast candidate, who is interested to enroll as a Master by research student at Department of Engineering And Built Environment, Penang Branch Campus, under TARUC Internal Research Grant Scheme.

### **Research Title: Miniaturized Dual Frequency (HF and UHF) Metal Mountable RFID Tag Antenna**

For many years, the RFID industry has been working to standardize three main RFID bands-low frequency (LF), high frequency (HF) and ultra-high frequency (UHF). However, because HF and UHF can provide longer reading distances, they are more popular today. HF RFID tags operating at 13.56 MHz use inductive coupling to communicate between the read / write head and the transponder, while UHF RFID tags (860 MHz-960 MHz) use electromagnetic wave propagation as a means of communication. These two technologies are virtually incompatible where tag antennas, together with other test systems must be specifically designed for each frequency band. It also means that more investment is needed to satisfy the requirements of these two different systems.

- 1) The first objective is to explore dual frequency band design techniques for RFID tag that mountable on metallic surface applications. This success will enable a single metal mountable tag antenna to adapt to two frequency bands, reducing investment costs.
- 2) The second objective is to explore new antenna miniaturization techniques for designing dual frequency metal mountable RFID tag that applicable to metallic surfaces. End user prefers to use electrically small and low profile tag as a single tag model can be applied to all types of objects regardless of their sizes. The success of this will certainly boost the applications of RFID tags in harsh environments.

### **Criteria for applicants:**

- Bachelor degree in electrical and electronics engineering or any other related field
- Familiar with RF and microwave theories
- CGPA above 3.30
- Good in both writing and communication skills in English
- Good in attitude and highly motivated person, Able to work independently
- Able to commence as soon as possible

-Priority to Malaysia citizen.

Commencement date: Immediate

Successful applicant will be funded under the TARUC Internal research grant. Monthly allowance RM 1,800 will be provided (18 months). Send your inquiry and CV to Dr. Bong Fwee Leong at [bongfl@tarc.edu.my](mailto:bongfl@tarc.edu.my) .

Thank you.