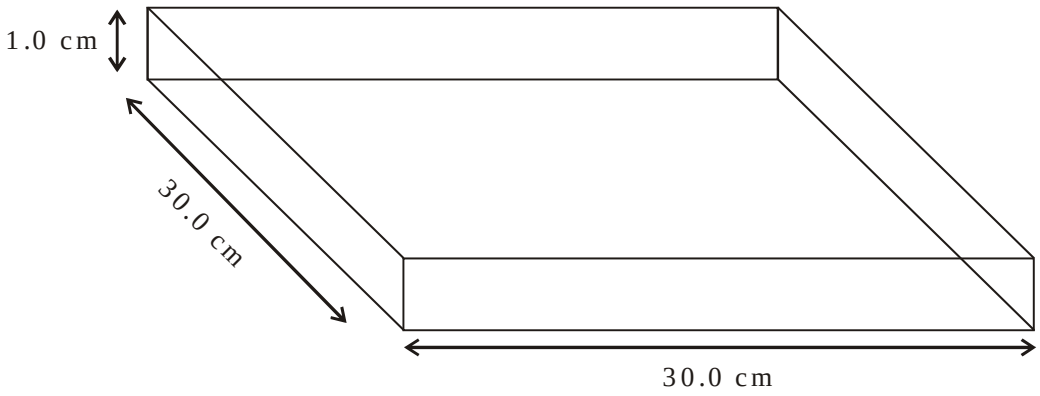
IEEE RFID 2012 Student Competition: Rectenna Shootout!

Student teams of any size may submit a design for a custom 915 MHz LED rectenna (antenna + RF charge pump + LED) for the IEEE RFID 2012 conference. Cash prize for the device that can light up an LED from the furthest distance from a 915 MHz continuous wave source.

The rectenna must be constructed exclusively from the following items:

- Avago Schottky Diodes (http://www.avagotech.com/pages/en/rf_microwave/diodes/schottky/hsms-2862/)
- Copper tape (any dimension and amount)
- Solder or cold Solder pen
- Cardboard, tape, and/or glue
- Passive microwave capacitors (any value)
- Green LED (Low-Power CMD28-21 series, available from Digikey)

Any passive antenna type may be used, with the requirement that the entire rectenna must fit within a box with the following dimensions:



The competition will be conducted using a 915 MHz signal source connected to a directional antenna with linear polarization. A judge will determine the absolute illumination range, but the team may specify the orientation with which to test their rectenna. Each rectenna entry must be accompanied by a unique student registration from a team member; no multiple entries per registrant.

For further information, email Greg Durgin at durgin@gatech.edu.

Useful references: http://www.propagation.gatech.edu/ECE4370/projects/projects.html