



"NANO ANTENNA (RF ANTENNA) AND SUPERCAPACITORS "
Mini - Project Exhibition under the banner of 0.7 Technical Club

Date & Day :

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REPORT

Introduction : RF ANTENNA AND SUPERCAPACITORS

Objective/Aim :

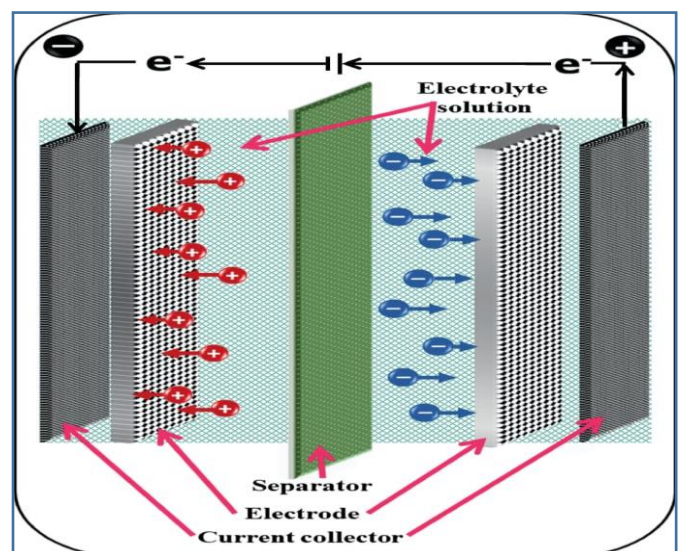
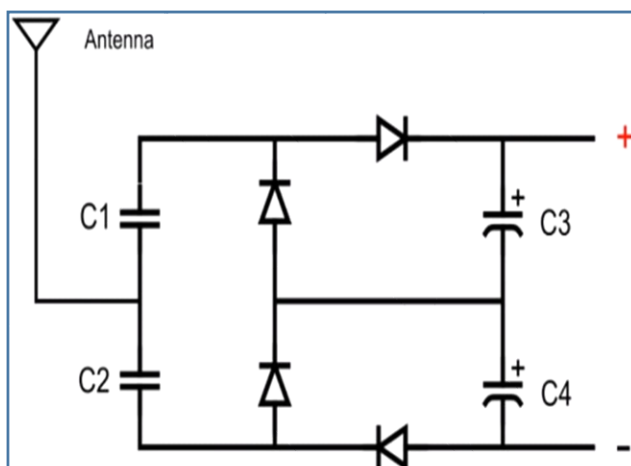
1)RF ANTENNA:

-Generation of voltage from electromagnetic radiation(RF signals)

2)SUPERCAPACITORS:

- Storage of charge through chemical reaction (electrolyte)
and discharge charges when required.

Block Diagram & Flow Chart:



METHODOLOGY: 1)RF ANTENNA : When an RF antenna receives an electromagnetic wave, the energy carried by the wave is converted into an electrical signal that can be processed by an electronic device, such as a radio receiver

The conversion of electromagnetic energy to electrical energy is accomplished by the use of a transducer, which is a device that converts one form of energy to another

2)SUPERCAPACITOR:

The positive charged acquired electrode starts adsorbing negative ions from the electrolyte and the other electrode which is negatively charged starts adsorption of positive ions from the electrolyte. The adsorption phenomenon occurs due to high surface area of the electrode and porosity of the electrode

This adsorption takes place due to coating activated charcoal on electrode

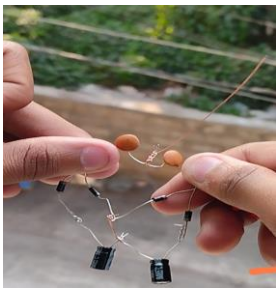
TOOLS USED: 1)RF ANTENNA: Electrolyte Capacitors (100micro farad) ,Capacitors (0.22micro farad),P-N junction diode (4), copper (antenna)

2)SUPER CAPACITORS: Current collector (Aluminum Foil), Electrode (activated charcoal), electrolyte(Potassium ferri cyanide)

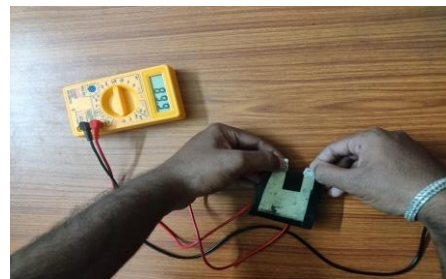
ADVANTAGES: 1)RF ANTENNA: Low cost , effective transmission , wireless transmission, versatility, compact size, high band width .

2)SUPERCAPACITORS: high power density , fast charging and slow discharging, Long cycle life , low maintenance , high efficiency , wide temperature range

RESULTS: 1)RF ANTENNA :



2)SUPERCAPACITOR:



CONCLUSION: 1)RF ANTENNA:

- From the above results and information it is clear that how important is RF antenna energy conversion in our daily life.
- It includes from wireless communication systems Like radio, remote controlled devices and interestingly a source of energy to power “ Microbots and Nanobots”
- Microbots and Nanobots require relatively less power to operate that is in figures of milliwatts to Microwatts.

2)SUPERCAPACITORS:

- Supercapacitors in the present day scenario are finding very promising applications due to its quick charge and discharge also, excellent power densities.
- There are on going research on the supercapacitors to increase its densities by modifying its electrode materials. One such earth has come out nee, inexpensive material known as an Lignin
- The modified land increased energy called as -density supercapacitor will be pseudocapacitors in the near future.