

Location aware mobile phone signal strength logger into 2GB memory card (MMC/SD/Mirco SD)

The project aims in designing a system which helps in knowing the network signal strength of a mobile phone and also capable of logging data into a MMC card using GSM and GPS modules. This helps telecom operators to easily find out the low signal points.

The GPS is the acronym for Global positioning system. This GPS receiver is capable of identifying the location in which it was present in the form of latitude and longitudes. It is employed to find the position where any object is located on the earth. The GPS gives the data received from the satellites. For this information the GPS communicates with at least three satellites in the space.

The controlling device of the whole system is a Microcontroller. GPS module, GSM modem, LCD display, MMC card, and PC are interfaced to Microcontroller. The Microcontroller continuously gets information regarding signal strength and location coordinates from GSM modem and GPS receiver. The Microcontroller process this information and logs into MMC card. This information is continuously displayed on LCD for user spot reference. Also, this logged information can be sent into PC by interfacing PC to this system and just pressing a control button. This system helps in finding low signal strength points very easily. To perform this task the Microcontroller is programmed using Embedded C language.

The main objectives of the project are:

1. Real time monitoring of the network signal strength.
2. Remote storage of data.
3. Large storage space.

The project provides the following learning's:

1. Microcontroller interfacing with GSM modem.
2. Microcontroller interfacing with GPS receiver.
3. GSM and GPS technologies.
4. 2 GB MMC card interfacing with microcontroller.
5. Serial communication protocols.
6. PC interfacing to Microcontroller.

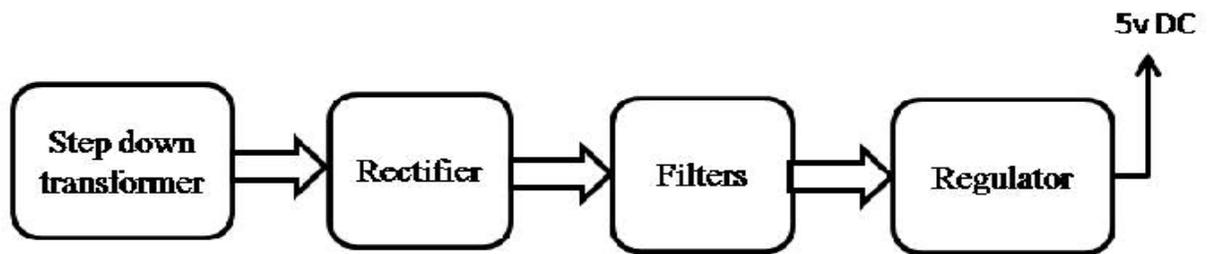
The main building blocks of the project are:

1. Regulated Power Supply.
2. Microcontroller.
3. GSM modem.
4. GPS receiver.
5. MMC card with driver.
6. Control button.
7. MAX 232.
8. Crystal oscillator.
9. LCD display with driver.
10. LED indicators.

Software's used:

1. PIC-C compiler for Embedded C programming.
2. PIC kit 2 programmer for dumping code into Micro controller.
3. Express SCH for Circuit design.
4. Proteus for hardware simulation.

Regulated Power Supply:



Block diagram:

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