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**Design and Construction of power management for effective demand response using Microcontroller**

A Project Submitted in Partial fulfilment of the requirements for the degree of Bachelor of Science in Electrical and Electronic Engineering.

Submitted By

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Reg. No. WUB/09/11/49/1eee   
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**Supervised by**

XXXXXXXXXXXXXXXXX

Lecturer, Dept. of EEE

World University of Bangladesh

**Feb, 2017**

**Letter of Transmittal**

Date: Feb, 2017

To

CCCCCCCCCC

Lecturer,

Department of Electrical & Electronic Engineering

World University of Bangladesh

Dhaka, Bangladesh.

Subject: Submission of project report.

Sir,

I am hereby pleased to submit the project report on **“Design and Construction of power management for effective demand response using Microcontroller”** It was a great pleasure to work on such an important topic. This project report was done according to the requirements of the World University of Bangladesh. I believe that this report will certainly help you to evaluate our project work.

I would be very happy to provide any assistance in interpreting any part of the paper whenever necessary.

Thank You

Sincerely Yours

Md.Ss kind

Reg. No. WUB/09/11/49/17ss

Pasaj Sas

Reg. No. WUB/09/11/49/17ss

**DECLARATION**

I hereby, declare that the work presented in this project is the outcome of the investigation performed by us under the supervision of XXXXX, Lecturer, Department of Electrical & Electronic Engineering, and World University of Bangladesh. I also declare that no part of this project and thereof has been or in being submitted elsewhere for the award of any Degree.

Submitted By

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**CERTIFICATE**

This is to certify that the project paper on **“Design and Construction of power management for effective demand response using Microcontroller”** is the bona fide record of project work done by Md.XXXXXX , Reg. No. WUB/09/11/49/1735, YYYYYYY Reg No. WUB/09/11/49/1712 for his partial fulfillment of the requirements of B.Sc.degree in Electrical&Electronic Engineering from World University of Bangladesh. This project paper has been carried out under my guidance and is a record of the successful work. I wish his every success in life.

Faculty Guide

Supervisor

…………………........................

XXXXXXXXXXX

Lecturer, Dept. of EEE

World University of Bangladesh

**Acknowledgement**

I am very grateful to almighty Allah at first for finishing my project successfully. I would like to express our profound gratitude to our supervisor, XXXXXX, Lecturer, Department of Electrical & Electronic Engineering, World University of Bangladesh, for his guidance throughout all phases of our project. I would like to thank him for his cordial suggestion which helped us to reach our goal. I would also like to thank all our faculty members, Lab instructors of the Department of Electrical &Electronic Engineering, World University of Bangladesh. The authors are also grateful to Professor Dr. Md. Amanullah Choudhury**,** Head of the Department of EEE and all respected teachers of the Electrical and Electronic Engineering Department for their co-operation and significant help for completing the project work successfully.

Thank you all

**Author**

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**Executive Summary**

The main purpose of the power meter is to measure the power by sensing voltage and current. Electric power monitor can be used to measure how much electrical energy is used at home. It measures voltage with an AC to DC adapter. The energy meter can calculate real power, apparent power, power factor, rms voltage, rms current. However, in this project real power is calculated by the Microcontroller and its corresponding energy is also calculated. All the calculations are done in the digital domain on an PIC Microcontroller. Finally, calculated value is shown on LCD. Load is controlled according to time and power using relay.

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