



FINAL YEAR PROJECT REPORT

**SMART METER DATA TRANSMISSION
THROUGH POWER LINE**

In fulfilment of the requirement
For the degree of
BEE (Electrical Engineering)

By

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2014-2022**

DECLARATION

We hereby declare that this project report is based on our original work except for citations and quotations which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

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APPROVAL FOR SUBMISSION

I/We certify that this project report entitled “**SMART METER – DATA TRANSMISSION THROUGH POWER LINE**” was prepared by **MUHAMMAD ADEEL, SAMAD FAROOQUE AND RAHIL JABBAR** has met the required standard for submission in partial fulfilment of the requirements for the award of Bachelor of **ELECTRICAL ENGINEERING** at Bahria University.

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Specially dedicated to

my beloved grandmother, mother and father

(Muhammad Adeel)

my beloved grandmother, mother and father

(Samad Farooque)

my beloved grandmother, mother and father

(Rahil Jabbar)

ACKNOWLEDGEMENTS

We would like to thank everyone who had contributed to the successful completion of this project. We would like to express my gratitude to my research supervisor, Engr. Muhammad Hussain for his/her invaluable advice, guidance and his/her enormous patience throughout the development of the research.

In addition, we would also like to express my gratitude to our loving parent and friends who had helped and given me encouragement.

SMART METER
DATA TRANSMISSION THROUGH POWER LINE

ABSTRACT

Power Line Communication is now become a popular technology for home automation, networking and data transmission. The aim of the project is to design a low-cost power line communication modem through which we can transmit or receive data on existing power lines. This PLC Modem is consisting of a modulator (Transmitter), demodulator (Receiver) and coupling circuit. The transmitter circuit is design for sending the signal to the power line. The signal modulation stage, the signal amplification stage, and the power line interface stage are all the stages for transmitter circuit design. The receiver circuit design is for receiving the modulated signal from the power line and recovering it to the original data signal. The interface with the signal amplification stage, and the signal demodulation stage are all for receiving circuit design.

The objective of this project is to design and develop a low-cost Power Line Communication Modem Circuit to transmit data through power line (approx. 100 meter). Power Line Communication Modem includes transmitter and receiver circuits using latest Modulation Technique. A power line modem is an all-in-one device which consists of a modulator (Transmitter circuit), demodulator (Receiver Circuit) and a Coupling Circuits

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