# FACULTY OF ELECTRICAL ENGINEERING UNIVERSITI TEKNOLOGI MARA PULAU PINANG

# FINAL REPORT:WIRELESS MOBILE CHARGER

## MOHAMAD AMIRUL ANAS BIN MOHAMAD RAFI

SUPERVISOR:PUAN SITI SOLEHAH BINTI RAMLI

# This report is submitted to the Faculty of Electrical Engineering,

Universiti Teknologi MARA (UiTM).

In partial fulfillment of the requirement for the award of Diploma in Electrical Engineering.

This report is approved by:
•••••••••••••••••••••••••••• <del>•</del>
Madam Siti Solehah Binti Ramli
(SUPERVISOR)
Date: 6/10/16.
Date:

### ABSTRACT

The project of wireless mobile charger device was designed to introduce an easy and user friendly system because the user can charge the mobile phones wirelessly. Thus, it can ease the user to charge the mobile phone while using it.

This system is reliable, fast respond and user friendly because it is easy to use and assembled. Connect the transmitter section to the power supply. Turn on the power supply. Then, connect the mobile phone at the output of receiver section. Place the receiver section and transmitter section near to each other. The mobile phone will be charge wirelessly.

This project uses a dry cell battery as an input or power supply. The project of wireless mobile charger works by using the principle of inductive coupling. It has oscillator, transmitter coil, receiver coil, rectifier and voltage regulator in the circuit. The coils will transfer the power wirelessly. The voltage regulator will give the output for this project.

### **ACKNOWLEDGMENT**

In the name of Allah SWT, I would like to show my gratitude to the Almighty for giving His bless in completing my project and also because of His guidance in order to complete the Final Year Project (FYP), Wireless Mobile Charger.

Thanks to Allah SWT with His help and permission to give me the ideas, health and also the opportunity to complete my project within the given time duration. The satisfaction, which accompanies the successful complete of the project, is incomplete without the mention of a few names. This project is definitely a journey that has taught me to appreciate every person who has been involved in accomplishing the entire task. I take this opportunity to acknowledge the efforts of the many individuals who helped me make this project possible.

First of all, I would like to express my heartfelt appreciation and gratitude to my respectful supervisor, Puan Siti Soleha for being supportive and helpful while facilitating my activities. Her vision and execution aimed at creating a structure, definition and realism around the project and fostered the ideal environment for me to learn and grow. Other than that, I also would like to thanks to the other lectures from Faculty of Electrical Engineering (FKE) for giving me more ideas and information about my project.

Besides that, I would like to thanks and extent my immense gratitude to my parents for always supporting me in completing this project. I also would like to appreciate the technicians for their cooperation for giving me to use the laboratory in order to complete this project. All of their commitments, critiques and suggestions have helped me in the progress of finishing this project. Furthermore, not forget to my friends and seniors for their helps and ideas.

### TABLE OF CONTENT

CONTENT	PAGES
ACKNOWLEDGMENT	i
ABSTRACT	ii
LIST OF FIGURES	iii
LIST OF TABLES	v
LIST OF ABBREVIATIONS	vi
CHAPTER 1: INTRODUCTION	1
1.1 Background of Study	1
1.2 Problem Statement	3
1.3 Objective of Research	4
1.4 Scope of Study	4
CHAPTER 2: MATERIALS AND METHOD	5
2.1 Methodology	5
2.2 Experimental Setup	8
2.3 Equipment and Component	11
<b>CHAPTER 3: CIRCUIT DESIGN AND OPERATION</b>	18
3.1 Schematic Diagram	18
3.2 Circuit Operation	20
3.3 PCB Designs	23