Contents

Lis	st of Figures	İ۷
List of Tables		
1	Introduction	1
2	Circuit Design and Analysis 2.1 Boost Converter Circuit and Analysis 2.1.1 Calculation of Energy Loss in the Capacitor 2.1.2 Calculation of Time for Current to Flow Into the Inductor 2.1.3 Calculation of Time for Current to Flow Out of the Inductor 2.1.4 Calculation and Selection of Output Resistor 2.1.5 Calculation of Waveform Generator Settings 2.2 Astable Multivibrator Circuit and Analysis 2.2.1 Calculation of Frequency and Duty Cycle 2.2.2 Selection of Capacitors Values 2.3 Low Pass Filter Circuit and Analysis 2.4 DC-DC Power Supply Circuit and Analysis 2.5 Thévenin Equivalent Output Impednace of the DC-DC Power Supply	1 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
3	Simulated Performance 3.1 Boost Converter Simulation 3.1.1 Transient Analysis 3.1.2 Current Through Transistor 3.1.3 Temperature Analysis 3.2 Astable Multivibrator Simulation 3.2.1 Transient Analysis 3.2.2 Capacitor Sensitivity Analysis 3.3 Low Pass Filter Simulation 3.4 DC-DC Power Supply Simulation	4 5 5 5 5 5 5 5 5 5
4	Experimental Implementation 4.1 Boost Converter 4.2 Astable Multivibrator 4.3 Low Pass Filter 4.4 DC-DC Power Supply	7 7
5	Discussion5.1 Boost Converter5.2 Astable Multivibrator5.3 Low Pass Filter5.4 DC-DC Converter	8
6	DC-DC Power Supply Cost Estimate	8

7	Conclusions	8
Αį	ppendices	9
A	This is the first appendix	9
В	This is the second appendix	9
References		10