ABSTRACT

In this final project a tool will designed to convert temperature difference into electricity for charging smartphone's battery. This tool uses the principle of the Seebeck effect where the temperature difference on the thermoelectric plate is converted to DC voltage. IC Max756 as Step up dc-dc voltage converter is used to regulate output voltage constantly 5V. 6 pieces in series circuit of TEG SP1848-27145 as thermoelectric generator is used to generate electricity from temperature difference. 6 pieces' thermoelectric generator in series circuit generate open-circuit voltage 11 volt in 84.5 ^{o}C temperature difference and generate 336.2 mW power in 75 ^{o}C temperature difference at 50 Ω load. The test results when charging smartphone shows that the charging process starts at 73 ^{o}C temperature difference where the voltage obtained 4.8 Volts with 58 mA current.

Keywords: ***thermoelectric generator*****, Seebeck Effect*****, charging smartphone, Step up dc-dc voltage converter.***