

## ABSTRACT

*In the use of the Electrosurgery unit the power setting and the wrong mode can cause unwanted tissue damage, so in need of setting the cutting mode and the required power settings. The purpose of this research is to design power control and cutting modes in electrosurgery. The contribution of this study is the making of power control and modes for Electrosurgery unit to increase the power and cutting modes. To control the power of electrosurgery use circuit frequency to voltage IC LM2907 as the voltage regulator that is issued according to the magnitude of the frequency with LOW, MEDIUM, HIGH power selection. Methode uses CMOS 4069 IC as a frequency generator at 250 kHz and then passed on driver pulse and controlled with IC atmega328, then forwarded to the series of inverter that serves to increase the tension and output in the form of power. After measurement, obtained the voltage value in the setting low, medium, high, on the input inverter with the value of Blend mode 3 Low setting 100 V error 0.03%, medium setting 110V error 0.02%, High setting 120 V Error -0.02%, in Coagulation mode low setting 100 V error 0.05%, medium setting 110V error 0.08%, High setting 130 V error 0.003%. The measurement shows power management is working with an error low than 1%. The results of this study can be implemented in Electrosurgery Unit to reduce Tissue damage due to a lack of cutting mode and power management.*

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**Keyword:** *electrosurgery unit, tissue, frequency, power*