

## ABSTRACT

*The phototherapy is a device used in hyperbilirubinemia therapy by using blue light radiation with ranges between 425nm-475nm. The effectiveness of hyperbilirubinemia therapy depends on the amount of energy emitted by light which expressed in  $\mu\text{W}/\text{cm}^2$ . The purpose of this study is to develop a low-cost and high accuracy Phototherapy radiometer.*

*Measurement of blue light irradiance using the AS7262 sensor which can measure the irradiance of visible light with a wavelength of 450nm, 500nm, 550nm, 570nm, 600nm, 650nm with relative responsiveness of 1 time at each wavelength. SD card memory is used to save measurement data of irradiance so that it can be processed later.*

*Based on the blue light irradiance data collected the smallest error value is 0,40% at a distance of 10cm while the biggest error value is 9,01% at a distance of 30cm. After testing the entire system, the device can be used according to its function and purpose.*

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**Keywords:** *Phototherapy Radiometer, Blue Light, AS7262*