

## ABSTRACT

*The Waterpass is one of the important instruments during the Radiographic Conformity Test in accordance with BAPETEN PERKA No. 2 of 2018. In general, conventional waterpasses are in the form of bubbles. The purpose of the development by using the MPU6050 sensor is to facilitate the use of a waterpass during the suitability test, so that the right X-ray image is obtained, and minimizes image magnification, and reduces reading errors from doctors, and reduces errors from reading eyes. This is achieved by evaluating and studying the effect of perpendicularity and alignment on the results of X-ray images, and the role of the waterpass for the Conformity Test, as well as studying the MPU6050 sensor. This study uses the Arduino system as data processing from sensor measurements and displayed on the LCD. In this study, measurements were successfully carried out. In this study, perpendicularity measurements were successfully carried out using the MPU6050 sensor as a 6 Axis motion reading medium consisting of Pitch and Roll controlled by Arduino nano, according to the general radiographic suitability test working method, this tool is feasible to use because it has the largest error value is 1 degree smaller than the allowed angle measurement tolerance. and is feasible to use*

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**Keywords :** *Waterpass, X-Ray Image, MPU6050*