

## ABSTRACT

*Boron is an industry that many materials used for antiseptic substances or solvents. Although already mentioned in PERMENKES No RI. 235/MENKES/VI/84 about food additive, that natrium tetraborate which is well known as boron is classified in the additional materials that are prohibited from use in food, but in fact there are many forms of abuse of these substances. Organs the most prominent of boron is due to kidney. Hearing test boron is a tool that is used to detect the existence of boron in the food available in the market. During this test boron is still used to the way some of the laboratory manual pada and Central POM in Surabaya.*

*On this module by using the color sensor to detect the color changes that occur in the bulb containing boron is boron with a test kit that will be colored red maron. Where in the TCS230 akan retrieve data in the form of a color that we have been testing. Reading data of each parameter for the design of software system made to sample as many as two boron, if the sample maron red sensor will then read that in a sample is a sample containing boron. If the sample does not change the color of the sensor will read a sample in the sample is not boron. By using IC mikrokontroler AT89s51 all be controlled and the program will run automatically with the results of the test boron that can be displayed on theLCD.*

*That the results of sensor measurements and calculations that have been compared on the LCD display between the sample measured using the TCS230, the error rate for the sensor when the boron is 0033% with the uncertainty of the value of 0.2 and the error value for the sensor at the time there is no boron is 0.0067% with the uncertainty of the value of 0.2, for measurement error in the color red is the 0667% with a value of 0.2 for the measurement uncertainty on the blue error is 0:16% with the value of uncertainty for the 0199 measurement error on the color green is 0.0909% with a value of 0.2 uncertainty*

*On the basis of these authors make a module entitled "ALAT UJI boron on a dry bulb meatball BASED MIKROKONTROLER AT89s51" How this tool depends on the color sensor and mikrokontroler (TCS230)*

**Keywords:** boron, Sensor TCS230