

## **ABSTRACT**

*The COVID-19 virus pandemic (Coronavirus Disease 19) has become a hot topic of conversation due to this date. A disease that attacks the human respiratory system becomes a case of the spread of the disease that is increasing daily. The system for detecting the movement of the human chest usually uses a belt-shaped device attached to the chest to see the respiratory rate. However, chest-mounted use requires contact with other people and promotes less privacy and comfort due to such attachments. Thus, a detection system is needed to monitor contactless chest breathing movements.*

*Radar systems are urgently needed as a contactless device to reduce the risk of spreading disease. The use of this radar is a Frequency Modulated Continuous Wave (FMCW) technique that can perform semi real-time monitoring. A monitoring system designed to perform small calculations to detect small movements in chest breathing.*

*This FMCW radar system research compares the RPM radar with manual calculations to get the error value less than 5%. The results of testing the respiratory target dataset with radar detection obtained an average error value of 2.03%. The proposed research is aimed at the health sector on vital signs.*

**Keywords:** *Contactless, Human Respiration, Radar, FMCW*