



International Journal of Advanced Research in Biology, Engineering, Science and Technology
(IJARBEST)

Vol. 2, Special Issue 8, February 2016 in association with
KAMARAJ COLLEGE OF ENGINEERING AND TECHNOLOGY, VIRUDHUNAGAR
DEPARTMENT OF BIOTECHNOLOGY

ORGANIZES

**DBT, NEW DELHI SPONSORED NATIONAL LEVEL CONFERENCE ON CONTEMPORARY TRENDS IN
BIOENERGY AND GREEN TECHNOLOGY: CHALLENGES AND OPPORTUNITIES [ORA-2016]
(25-26TH FEBRUARY 2016)**

MICROWAVE LIFE DETECTION SYSTEM

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ABSTRACT:

“Thousands of persons killed as a cause of earthquake”. The above words aren't the headlines of the newspaper but such news come after the disaster destroyed the field. The disaster in the New York City at ‘World Trade Center’ claimed lives of more than 5000 people. It was said if survivors has been found and rescue earlier the numbers of victims have been lower. There is no end to the number of lives lost as the result of such disasters as landslides, collapsed tunnels and avalanches. The microwave life detection system is developed for the search and rescue of victims trapped under the rubble of collapsed building during the earthquake or other disasters. The proposed system utilizes L-band frequency which is able to detect respiratory and heart fluctuations. The operation principle is based on Doppler frequency shift of the electromagnetic wave reflected from the buried victim. The schematic diagram of microwave Transmitting/Receiving (T/R) and clutter cancellation subsystem are included in this report. In this report various parts of a microwave life detection system such as antenna, directional coupler, and splitter has been discussed. By advent of this system the world death rate as a cause of an earthquake may decrease to greater extent.

KEYWORDS: Life under rubble, modulation due to body oscillations, Doppler shift, dual antenna system, clutter signals

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