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| **Title:** | A Wearable Microstrip Patch Antenna for Detecting Brain Tumor | | |
| **Author(s) Name:** | Sourav Sinha; Ta-Seen Reaz Niloy; Raja Rashidul Hasan; Md. Abdur Rahman; Sajidur Rahman | | |
| **Contact Email(s):** | hemal@aiub.edu | | |
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| **Abstract:** |  |
| Now-a-days the third cause of occurring death is brain tumor, which is ranking only behind heart disease and cancers through worldwide. This paper represents a wearable Micro-strip patch antenna, which works at Industrial, Scientific and Medical (ISM) band (2.4-2.4835GHz) after implanting in human head with low radiation including a flexible compact size for detecting the brain tumor in a larger bandwidth. The antenna and the human head model is designed and simulated in CST Microwave studio, where FR4 is chosen as substrate for its flexibility characteristics and copper is chosen forpatch and for ground. For ensuring the safety of patient, the human head phantom model is made of consisting six homogeneous layers (Brain, Cerebrospinal Fluid (CSF), Dura, Skull, Fat, and Skin). The antenna is surfaced on the human head phantom model to assure the patient safety and analyzed. Without tumor, the observed values of S11 is - 22.299953 dB, SAR is 0.03101 W/Kg in 10g tissue of human head model (ensuring the safety on Human body), Radiation efficiency is -15.04 dB and Total efficiency is -15.07 dB. All these parameters are analyzed to assure the suitability of the antenna, which is efficient, or not to wear on human head as well as measure the brain tumor. | |