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| **Title:** | Miniaturized Body Implantable PIFA Operates in MICS-Band and SAR Analysis at Brain, Breast and Muscle of a Human Phantom Model | | |
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| **Abstract:** |  |
| This paper represents a standard design of a Planar  Inverted-F Antenna (PIFA) for medical applications which  operates in MICS band (402-405MHz). The antenna is designed  very small in size and a better resonant performance is observed  at different tissues of human phantom Model. Rogers R03010 is  used as substrate and Copper as material. By employing  meandering and including the superstrate, the dimension of the  proposed antenna is to 12.5 ×12.5 mm2.The antenna is operated  at the desired frequency of 404 MHz and also the S11 parameter  is obtained -25.81 dB maximum. Specific Absorption Rate (SAR)  is calculated for Brain, Breast and Muscle of a human phantom  model. At resonant the SAR value is found 0.5745 W/kg for  brain, 0.5751 W/kg for muscle and 0.5772W/kg for breast tissue.  In brain tissue the antenna gives better frequency response.  Safety measurements were taken into account by stimulating the  Specific Absorption Rate (SAR) distribution of the antenna to  make it perfectly biocompatible. | |