

Title: Radiated Power from Mobile Base Stations and the Level of Awareness of Residents Living Close to it

Author Names: Aisha A. Bello, Grace O. Onyoku, Rilwan Usman, Muhammed Sani Otto, Atef El-Taher

Abstract: Low-frequency non-ionizing electromagnetic radiation (EMR) emanates from mobile base stations (MBS) antennas. There is a general concern that living close to this MBS could cause health effects, like headaches, sleep disorders and fatigue. Using a high-frequency spectrum analyzer (HF-2025E) coupled with hyper-log antenna (HL-7025) and a set of questionnaires, this work assessed radiated power on human body surface from 11 MBSs in Lafia and knowledge of residents on EMR from MBSs. The result shows that minimum and maximum power densities were 0.02 mW/m^2 and 927.97 mW/m^2 in the 900 MHz bands. The maximum absorbed radiated power was 297.77 on an adult male body surface area. These maximum values are below the ICNIRP standard of 4.5 W/m^2 ; concerns however, are on prolonged exposure whose value may exceed the limit. Results from questionnaire showed the level (53% and 51%) of awareness of EMR from respondents living close to the MBSs and their safety issues.

Key words: Power density, Radiated power, Human body surface, Electromagnetic radiation

<https://www.e-ijep.co.in/44-6-562-569/#:~:text=Low%2Dfrequency%20non%2Dionizing%20electromagnetic,headaches%2C%20sleep%20disorders%20and%20fatigue.>