

Safe Radio for Healthy Living

Electromagnetic radiation (EMR) hazards are now reaching alarming proportions; highlighted by numerous studies conducted by scientists from all over the world, including many from India. These studies have been published in several reputed journals and reported in conferences in India and abroad. Most recently, a symposium on electromagnetic fields (EMF) was conducted at the Jawaharlal Nehru University, New Delhi. The President of India, having noted the importance, has spoken about EM pollution in his addresses. The Society of EMC Engineers (India) had been organizing INCEMIC, the chain of annual international conferences on electromagnetic interference and electromagnetic compatibility (EMI/EMC). The Indian Council of Medical Research and the World Health Organization have recommended precautionary approach in relation to the use and control of radiations from cell phones and related base station towers, and have also suggested adaptation of internationally recommended acceptance standards and rules and regulations to ensure safety of general public.

Indigenously developed devices



using RF shields, filters and microwave absorbers are already available in the market; notable examples are EMR shielding guards for areas around heart, head and reproductive organs. Shielding curtains, films, paints and aprons

are also available for protection from high radiation sources such as microwave ovens, power inverters, vacuum cleaners, etc. These are particularly useful for children, pregnant women, senior citizens and those needing health care, as they are considered to be most vulnerable to EMR hazards.

Radio is just 112 years old; its harmful impacts are now only visible. In May 1895, Sir J C Bose reported his legendary work at 50 GHz to the Asiatic Society of Bengal at Calcutta and demonstrated that 'electric (radio) waves possessed all the characteristic optical properties of light waves'. Subsequently, Marconi commercially exploited radio for long distance communications. Till recently, continuous exposure to radio waves was localized to areas near broadcasting stations, radars, radio communication terminals, etc. - the related radiations were not adversely affecting public in residential areas, hospitals, schools, etc. The situation has changed significantly during the last few years with the proliferation of cell phones and other wireless devices such as TV remotes, cordless phones, WIL, WiFi, WIMAX, Bluetooth, etc.

The future of EMR is quite alarming. Wireless medical devices are going much beyond Bluetooth connectivity and Tele-monitoring. Radio transmission and reception devices are getting integrated into embedded medical chips. Internationally, standards are being evolved for implantable medical devices enabled by the MICS (Medical Implant Communications Service) using low-power 402 to 405 MHz RF. These may further get linked to feed back signals from automatic monitoring systems and devices for controlled release of drugs. But, are these wireless devices safe enough?

There is a strong need to initiate public awareness campaign to educate and guide unsuspecting members of our society, so that they can save themselves and their children from the harmful effects of EM radi-

ation. It is also essential that Govt. of India tightens control on unlawful radiations emanating from electrical and electronics devices and other instruments. There is an urgent need to incorporate appropriate amendments to the Indian Telegraph Act and other related laws so as to save the environment and make it suitable for healthy living. ■

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