

New ICNIRP guidelines and implications on 5G

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ICNIRP recently completed new guidelines on exposure to radiofrequency electromagnetic fields (RF EMF). They are currently in press and publication is expected in November / December 2019 (www.icnirp.org). The guidelines are based on a thorough review of the literature on biological and health effects. The only scientifically substantiated adverse health effects that emerged from that review are the ones that result from heating of the body and tissues as a result of energy deposition by RF EMF.

Tissue-dependent maximum temperature increases therefore form the basis of the guidelines. From these temperature increases, maximum exposure levels, called basic restrictions, have been derived for relevant parameters such as the SAR (specific absorption rate) for frequencies up to 6 GHz and the absorbed power density for higher frequencies. From the basic restrictions, reference levels for the external electric and magnetic field – which are more easily to measure – have been derived. Detailed guidelines are also provided for short (< 6 min) exposures.

The guidelines will be presented and examples will be given for the frequencies that will be used by 5G: 700 MHz, 3.5 GHz and 26 GHz.