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New Guidelines Released by the International Commission on Non-Ionizing Radiation Protection (ICNIRP)

Updated guidelines provide improved protection for higher frequency 5G and beyond

March 9, 2020

The International Commission on Non-Ionizing Radiation Protection (ICNIRP) has released new guidelines for the protection of humans exposed to radiofrequency electromagnetic fields.

The guidelines cover the upcoming 5G technologies, as well as AM and DAB radio, WiFi, Bluetooth and the currently used 3G/4G mobile phones.

ICNIRP Chairman Dr Eric van Rongen said the new electromagnetic field guidelines have taken seven years to develop and are more appropriate than the 1998 guidelines for the higher frequencies that will be used for 5G in the future.

“We know parts of the community are concerned about the safety of 5G and we hope the updated guidelines will help put people at ease,” he said.

“The guidelines have been developed after a thorough review of all relevant scientific literature, scientific workshops and an extensive public consultation process. They provide protection against all scientifically substantiated adverse health effects due to EMF exposure in the 100 kHz to 300 GHz range.”

The ICNIRP first published its international guidelines for protection against harmful effects of radiofrequency fields in 1998. The main changes in the 2020 guidelines that are relevant to 5G exposures are for frequencies above 6 GHz. These include:

- the addition of a restriction for exposure to the whole body;
- the addition of a restriction for brief (less than 6-minute) exposures to small regions of the body; and
- the reduction of the maximum exposure permitted over a small region of the body.

“When we revised the guidelines, we looked at the adequacy of the ones we published in 1998. We found that the previous ones were conservative in most cases, and they’d still provide adequate protection for current technologies,” Dr Van Rongen said. “However, the new guidelines provide better and more detailed exposure guidance in particular for the higher frequency range, above 6 GHz, which is of importance to 5G and future technologies using these higher frequencies. The most important thing for people to remember is that 5G technologies will not be able to cause harm when these new guidelines are adhered to.”

Other minor changes to the guidelines include:

- greater transparency to make the logic and scientific basis of the guidelines easier for the health protection community to engage with;
- additional means of assessing compliance with the guidelines; and
- greater specification of how to assess complicated exposure scenarios.

The full guidelines are published in the scientific journal Health Physics (ICNIRP. Guidelines for limiting exposure to electromagnetic fields (100 kHz to 300 GHz) and can be accessed at [ICNIRP.org](https://www.icnirp.org).

About the International Commission on Non-Ionizing Radiation Protection

As an independent organization, the International Commission on Non-Ionizing Radiation Protection (ICNIRP) provides scientific advice and guidance on the health and environmental effects of non-ionizing radiation (NIR) to protect people and the environment from detrimental NIR exposure.

NIR refers to electromagnetic radiation such as ultraviolet, light, infrared, and radiowaves. In daily life, common sources of NIR include the sun, household electrical appliances, mobile phones, Wi-Fi, and microwave ovens.

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