



RADIO WAVES AND HEALTH: 50 BILLION CONNECTED DEVICES

Ericsson envisions that there will be 50 billion connected devices by 2020. Household appliances, consumer electronics, and other things that could benefit from being connected will communicate with wireless networks using radio waves. Like mobile phones, all these devices will comply with standards and regulations for radio wave exposure. Although the number of devices will increase dramatically, the overall exposure to radio waves will be only marginally higher and still far below established limits.

Connected devices emit low-power radio waves

In the future, not only will our mobile phones, tablets and laptops be connected, but all sorts of devices from cameras and health monitoring devices to washing machines and street lamps. A device that is wirelessly connected to a network will, by necessity, be equipped with a radio transmitter and an antenna which emits low-power radio waves. Many devices will communicate only sporadically with the network, and radio waves are only emitted during communication.

Connected devices must comply with exposure limits

As with mobile phones and other radio devices, the radio wave exposure from connected devices must comply with limits established by independent expert organizations. The limits are based on many years of research and include large safety margins. The World Health Organization (WHO), among others, recommends exposure limits which are adopted by national authorities.

More connected devices require more base stations

Mobile phones and other connected devices require a network of base stations in order to function. Each base station can only handle a limited amount of communication at a time. As communication increases, more base stations are therefore needed. However, the shorter the distance between base stations, the lower the output power of each base station antenna. And the shorter the distance between a connected device and a base station antenna, the lower the output power of the device.

Radio wave exposure will remain low with 50 billion connected devices

The radio transmitters in connected devices will emit radio waves of low power, and the radio wave intensity will decrease rapidly with the distance from a device. The contribution to the general radio wave exposure in the community will consequently be very low. Furthermore, many devices will only communicate during short periods of time. Therefore, the general radio wave exposure levels will remain far below the limits even with 50 billion connected devices.



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