

Specific Absorption Rates (SAR) for Wireless Phones

The SAR is a value that corresponds to the relative amount of RF energy absorbed in the head of a user of a wireless handset.

The SAR value of a phone is the result of an extensive testing, measuring and calculation process. It does not represent how much RF the phone emits. All phone models are tested at their highest value in strict laboratory settings. But when in operation, the SAR of a phone can be substantially less than the level reported to the FCC.

This is because of a variety of factors including its proximity to a base station antenna, phone design and other factors. What is important to remember is that each phone meets strict federal guidelines.

Variations in SARs do not represent a variation in safety.

All phones must meet the federal standard, which incorporates a substantial margin of safety. As stated above, variations in SAR values between different model phones do not mean variations in safety.

SAR values at or below the federal standard of 1.6 W/kg are considered safe for use by the public.

The highest reported SAR values are:

Head: 1.56 W/kg; Body-worn: 0.48 W/kg

FCC Radiofrequency Emission

This phone meets the FCC Radiofrequency Emission Guidelines. FCC ID number: FCC ID: IHDT56DP1. More information on the phone's SAR can be found from the following FCC Web site: <http://www.fcc.gov/oet/fccid>.

Consumer Information on Wireless Phones

(The following information comes from a consumer information Web site jointly sponsored by the U.S. Food and Drug Administration (FDA) and the Federal Communications Commission (FCC), entitled "Cell Phone Facts: Consumer Information on Wireless Phones." The information reproduced herein is dated April 3, 2002. For further updates, please visit the Web site: <http://www.fda.gov/cellphones/>.)

1. What is radiofrequency energy (RF)?

Radiofrequency (RF) energy is another name for radio waves. It is one form of electromagnetic energy that makes up the electromagnetic spectrum. Some of the other forms of energy in the electromagnetic spectrum are gamma rays, x-rays and light. Electromagnetic energy (or electromagnetic radiation) consists of waves of electric and magnetic energy moving together (radiating) through space. The area where these waves are found is called an electromagnetic field.

Radio waves are created due to the movement of electrical charges in antennas. As they are created, these waves radiate away from the antenna. All electromagnetic waves travel at the speed of light. The major differences between the different types of waves are the distances covered by one cycle of the wave and the number of waves that pass a certain point during a set time period. The wavelength is the distance covered by one cycle of a wave. The frequency is the number of waves passing a given point in one second. For any electromagnetic wave, the wavelength multiplied by the frequency equals the speed of light. The frequency of an RF signal is usually expressed in units called hertz (Hz). One Hz equals one wave per second. One kilohertz (kHz) equals one thousand waves per second, one megahertz (MHz) equals one million waves per second, and one gigahertz (GHz) equals one billion waves per second.

RF energy includes waves with frequencies ranging from about 3000 waves per second (3 kHz) to 300 billion waves per second (300 GHz). Microwaves are a subset of radio waves that have frequencies ranging from around 300 million waves per second (300 MHz) to three billion waves per second (3 GHz).