

## WHAT IS SAR?



A client recently told us that not many people are still unaware of radiation levels in mobile phones, or today, including wearable mobile devices like fitness monitors and Smartwatches. The indicators of the amount of radiation absorbed into the body while being used is called **SAR (Specific Absorption Rate)**. A **SAR** value is a measure of the energy absorbed by a unit of mass of exposed tissue of a person using a mobile device over a given time; **SAR** values are expressed in units of watts per kilogram (W/kg) in 1 or 10 gr. of tissue. The lower the value, the better for the person.

**SAR** limits were set by Europe, the U.S. and Australia as far back as 1999 when technologies were young and constantly emerging.

<u>Region / Country</u>	<u>-Reference to - SAR measurement protocol</u>	<u>Reference to SAR limit</u>	<u>Limit</u>
Europe	European Specification ES 59005 (1998)	ICNIRP Guidelines 1998 (ICNIRP 1998)	<b>2.0 W/Kg in 10g of tissue</b>
Australia	Australian Communications Authority (ACA) Standard (ACA RS 1999)	Australian Standard AS/NZS 2772.1	<b>1.6 W/Kg in 1g of tissue</b>
US	Federal Communications Commission (FCC) Guidelines (FCC 1997)	American Standard ANSI C95.1 (ANSI 1992)	<b>1.6 W/Kg in 1g of tissue</b>

What does this mean to us? With the advent of more wearable devices and the universal use of mobile devices, **SAR** values research should be required prior to purchasing the device. Obviously radiation limits concern all users as we humans do not need more radiation in our bodies...food products and the environment give us plenty already. Mobile phones from all reputable companies list their **SAR** values on their packaging so consumers can compare one brand to another. Watchdog site [www.sarvalues.com](http://www.sarvalues.com) can provide you these values for most mobile phones on the market, listed by manufacturer. Here are a couple of examples.

Sony Ericsson	Z1010	1.41 W/kg
Samsung	SGH S300	1.14
iPhone 5		0.951
Blackberry	8830 WE	0.860
Asus Zenfone		0.580

As we have often recommended, do your research before buying any new technological device. Every day manufacturers are becoming more eco-friendly...and that includes being “safe-for-humans” too...so hanging on to outdated equipment could be dangerous to your health!