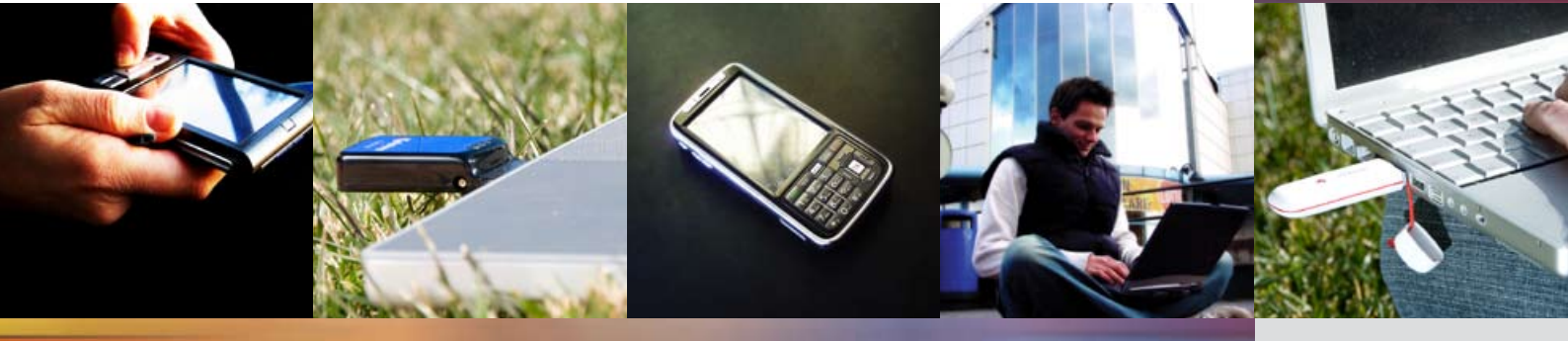




**Mobile Manufacturers  
Forum**

# **Mobile Broadband and Health**



# What is mobile broadband?

Mobile broadband is the general term used to describe high-speed internet access associated with third generation (3G) and beyond mobile services.

Mobile broadband moves us well beyond the traditional voice call – it allows the use of portable wireless communications devices supported by a network of base station sites that integrate many different features such as audio, video, data and voice.

## Safety of radio waves

The use of radio waves (also known as radiofrequency electromagnetic fields) is a common part of our everyday lives and provides the benefits and enjoyment of television and radio as well as an increasing range of wireless communications services. Mobile broadband devices all emit low levels of radio waves in order to provide the user with information via audio, video, data and voice features.

The safety of these radio waves has been extensively studied for more than 50 years. National and international scientific expert panels, government agencies, standard-setting organizations and health authorities regularly review this large and growing body of research. All these scientific reviews have led to the same general conclusion: that there is no established evidence of any adverse health effects from exposure to radio waves relevant to wireless communications systems.



## Do these new technologies pose new health concerns?

New technology products must meet the same international safety standards as existing wireless products such as mobile phones and base stations, and these standards are built on the knowledge generated by many years of health-related research.

It is important to note that none of the many national and international health agencies that monitor this issue, including the World Health Organization (WHO), have asserted that neither the wireless handsets nor their base stations pose any health risk to consumers when they comply with the international recommendations.



# Terminology Guide

## 1G

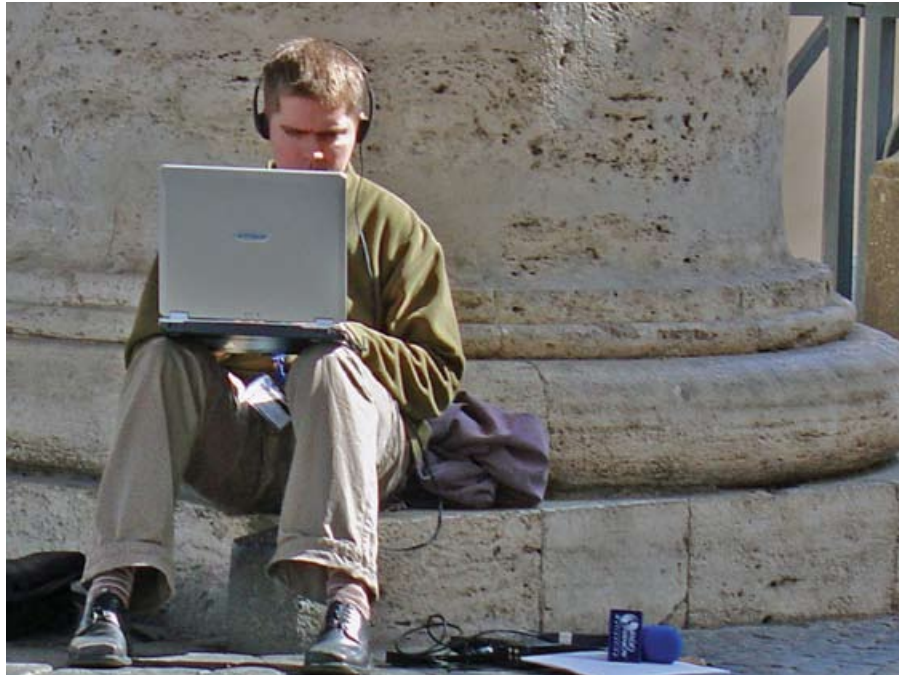
First generation systems were analog and designed for voice transfer. Advanced Mobile Phones System (AMPS) and Total Access Communications Service (TACS), are some of the terms used to refer to the different first generation network systems used around the world. Currently only a few analog systems still remain in existence.

## 2G

Second generation systems are digital and are capable of providing voice/data/fax transfer as well as a range of other value-added services. At present, second generation systems are still evolving with increasing data rates via technologies such as HSCSD (High Speed Circuit Switched Data) and GPRS (General Packet Radio Service). These are also known as 2.5G referring to their bridging role between second and third generation systems.

## 3G

Third generation mobile communication systems use high-speed data transfer enabling multimedia and other dynamic features. EDGE (Enhanced Data Rates for GSM Evolution), UMTS (Universal Mobile Telephone System), HSPA (High Speed Packet Access), WiMAX (Worldwide Interoperability for Microwave Access) and LTE (Long Term Evolution) are all terms that refer to third generation systems or further evolutions of third generation systems.



## Is current research relevant for new technologies?

As advances in technology lead to new generations of wireless communications systems it is understandable that questions are asked about the applicability and relevance of today's science. The wireless communications industry believes that both past and present research on possible health effects provides a sound scientific basis for addressing questions about the safety of wireless communications.

## Safety limits for exposure to radio waves

All mobile broadband devices and supporting infrastructure are subject to the same safety standards that are applied to radio waves from mobile phones and other radio products.

The WHO recommends the standards, which many governments and health agencies around the world have adopted. The standards establish exposure limits to which products must comply and include substantial margins of safety to protect consumers and the general public.



## **Mobile Manufacturers Forum**

The Mobile Manufacturers Forum is an international association of radio communications equipment manufacturers. For more information, please visit the MMF's website at [www.mmfai.org](http://www.mmfai.org).



Diamant Building  
Boulevard Auguste Reyers 80  
1030 Brussels Belgium  
Telephone: + 32 2 706 8567  
Facsimile: + 32 2 706 8569

---

Av. Paulista, 2300 – Piso Pilotis  
CEP 01310-300 São Paulo/SP Brazil  
Telephone: +55 11 6847-4610  
Facsimile: +55 11 6847-4550

---

15th Floor, 100 Queen's Road Central,  
Central, Hong Kong  
Telephone: +852 3180 9375  
Facsimile: +852 3180 9399