WLAN and Health

We have all read or heard about the concerns raised from time to time about the safety of radio waves. Not surprisingly, some have also wondered about the safe use of wireless networking equipment (WLAN). The wireless industry takes any such concern from the general public seriously. Although questions have been raised there is no scientific evidence that these low power wireless communications devices pose any health threat to the user or the general public. This brochure has been designed to answer questions you may have about the health and safety aspects of WLAN.

Wi Fi ALLIANCE

MMF Mobile Manufacturers Forum

GSMA

What is WLAN?

WLAN – stands for Wireless Local Area Network. WLAN is a flexible data communication system implemented as an extension to, or as an alternative for, a wired network within a building. WLAN technology is being widely used to provide wireless internet access in public places like airports, hotels, and shopping centers, but it is also increasingly being used in the home and office to allow computers to access the internet and network with each other without the need for special cables. To connect and communicate WLANs use radio waves in the 2.4 and 5 GHz range to transmit and receive data over the air.

What research has been undertaken?

Several studies that record the measurements of radio waves used by WLANs have been conducted by some governments and by industry. These studies have measured radio waves from WLANs in places where they are most commonly used, such as schools, bookstores, and office places. Without exception all these studies have shown that the radio waves used by WLANs are substantially below the required international safety limits.

When thinking about WLANs it should be remembered that the products operate using radio waves which are the same radio waves that are a common, though sometimes overlooked, part of our everyday lives. Radio waves provide the benefits and enjoyment of television and radio as well as an increasing range of mobile communications services. The safety of radio waves has been extensively studied for more than 50 years. This large and growing body of research has been regularly reviewed by numerous independent scientific expert panels, government agencies, standard-setting organizations and health authorities from around the world. These organizations have reached the same general scientific conclusion: there is no established evidence of any adverse health effects from exposure to radio waves when present at or below the recommended limits applied to wireless communications systems.

Are there safety limits for exposure to radio waves?

Yes. WLAN products are subject to the same standards that are applied to other radio products used near the human body. The standards themselves are established by independent scientific organizations, such as the International Commission on Non-Ionizing Radiation Protection

(ICNIRP). These standards have been widely adopted by governments and health agencies around the world, including the World Health Organization (WHO). The standards establish exposure limits, to which products must comply, and include substantial margins of safety to protect both users and the general public.

As earlier noted, measurement studies conducted at locations where WLANs were being used show that the technology operates substantially below the required international safety limits.

What about children?

Protection of the health and safety of children is naturally of concern to all of us. WLAN devices are subject to safety standards endorsed by the World Health Organization (WHO) and other health agencies. The standards have a substantial margin of safety built into the limits, which the WHO affirms takes into account the safety of children.

Are Wi-Fi devices in compliance with RF Exposure Requirements?

All Wi-Fi wireless products are required to be evaluated to ensure they conform to the RF emission safety limits adopted by agencies around the world before being placed on the market. These evaluations are done in accordance with the various regulations and guidelines adopted or recommended by regulatory agencies around the world such as the Federal Communications Commission[1].

What is the industry doing to ensure the continued safety of Wi-Fi products?

The Wi-Fi Alliance is conducting additional studies to confirm, in a variety of settings, that the radio wave exposures to Wi-Fi products consistently fall well below the international exposure limits. In addition, the organization is sponsoring an independent review of the scientific studies that may be relevant to Wi-Fi products. At the same time, the Mobile Manufacturers Forum and the GSM Association are also supporting a wide variety of international research into RF safety – with many of the research projects involving national and international health agencies.

[1] The requirements as referenced are in Office of Engineering and Technology Bulletin 65C Revision 01-01 *Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields.*

Where can I obtain more information?

To find out more information please visit any of the following websites:

- U.K. Health Protection Agency [www.hpa.org.uk/]
- Australian Communications and Media Authority [www.acma.gov.au]
- US Federal Communications Commission [www.fcc.gov/oet/rfsafety/rf-faqs.html]
- World Health Organization [www.who.int/peh-emf/]
- Mobile Manufacturers Forum [www.mmfai.org]
- GSM Association [www.gsmworld.com/health]
- Wi-Fi Alliance [www.wi-fi.org]

What is the MMF?

The Mobile Manufacturers Forum (MMF) is an international association of telecommunications equipment manufacturers. The MMF was established specifically to support ongoing international research into the safety of wireless technology in conjunction with national and international health agencies around the world.

What is the GSMA?

The GSM Association is the global trade body for the mobile industry with the primary goals of ensuring mobile phones and wireless services work globally and are easily accessible.

What is the Wi-Fi Alliance?

The Wi-Fi Alliance is a nonprofit international association formed in 1999 to certify interoperability of wireless Local Area Network products based on IEEE 802.11 specification. Currently the Wi-Fi Alliance has over 200 members from around the world, and about 2000 products have received Wi-Fi certification through 12 independent labs in six countries since certification began in March of 2000. The goal of the Wi-Fi Alliance's members is to enhance the user experience through product interoperability.

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www.wi-fi.org

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www.mmfai.org

GSMA
www.gsmworld.com