



Mobile Phone Shields and Patents

Mobile phones are designed to comply with scientifically based safety standards. However, add-on products are being marketed which claim to make phones 'safer.' The GSM Association (GSMA) advises that such products may not reduce exposure and are likely to reduce coverage. While present scientific information does not indicate the need for any special precautions, if individuals are concerned, they might choose to limit their exposure by limiting the length of calls, or using personal "hands-free" devices.

Background

Mobile phones are designed and tested for compliance against international guidelines endorsed by the World Health Organization (WHO), the International Telecommunications Union (ITU) and other bodies. However, various products are being marketed that claim to increase the safety of mobile phone use. These products generally take the form of shielded cases, earpiece pads/shields, antenna clips/caps, and absorbing buttons. The US Federal Trade Commission has described claims about shields as "all talk" and has been successful in having a number of products withdrawn for false advertising.

A mobile phone automatically operates on the lowest power necessary to secure call quality. If an add-on device adversely affects the phone's antenna, the phone will attempt to transmit more power up to its specified maximum. The increased output power could have several unwanted effects:

- Battery power may be wasted. One shield manufacturer reported a 12% reduction in battery life.
- As the phone has to work harder, extra heat may be generated by the phone, which may damage internal components.
- Call quality and coverage may suffer. Some devices may reduce effective coverage by up to 90%.



Personal Hands-free Accessories

Personal handsfree kits were developed to allow greater flexibility in phone use by customers. Some persons may choose to use these accessories to reduce their exposure to radio signals by allowing the phone to be used away from the head and body.

In April 2000, the UK consumer magazine *Which?* published an article reporting a three-fold increased exposure using a personal hands-free kit. However, later tests^{1,2} supported by the UK Department of Trade and Industry failed to support these claims.

In 2005, a French expert group report³ stated that measurements of 186 phones used with hands-free kits showing typical reductions in the order of 10-fold.

Mobile Phone Patents

The Mobile Manufacturers Forum has stated that the innovations in the patents referred to in periodic media reports address the design, performance and efficiency of mobile phones and were not motivated by concerns about potential health issues.

Patenting innovations is standard practice for all aspects of technology within the industry. The performance of an antenna is a key factor of the overall efficiency of the product. Better antennas not only improve received and transmitted speech quality, they also bring other benefits such as longer battery life.

GSMA Position

The GSMA believes that, 'shield' products are unnecessary, may not reduce exposure and are likely to affect phone performance. The consensus of independent expert reviews is that present scientific information does not indicate the need for any special precautions when using mobile phones. If individuals are concerned, they can choose to limit their exposure by limiting the length of calls, or using "hands-free" devices to keep mobile phones away from the head and body.

References

¹Manning, MI and Gabriel, CHB, *SAR tests on mobile phones used with and without personal hands-free kits*, SARtest Report 0083 for the DTI, July 2000.

²Manning MI and Densley M, *On the effectiveness of various types of mobile phone radiation shields*, SARtest Report 0113 for the DTI, June 2001.

³Agence Francaise de Securite Sanitaire Environmental, *Report to the AFSSE on mobile telephony and health 2004-2005* Edition, (English version).



Where to go for more information

GSMA: <http://www.gsma.com/health>