



IDENTICOM

Technical Bulletin: TB003-0306

SUBJECT:
Health & Safety Issues

Specific Absorption Rate (SAR)

The Identicom, as per all Global System Mobile communication (GSM) based products, emits low frequency signals in the form of Radio Frequency Electromagnetic Energy (RFEE).

The absorption of RFEE is measured by the Specific Absorption Rate (SAR) in units of Watts per Kilogram (W/kg). It is defined as the rate at which RFEE is absorbed per unit mass of a biological body.

Identicom was tested at the Federal Institute for Occupational Safety & Health in Berlin Germany in February 2005. The maximum SAR value of 0.5 W/Kg was obtained.

The European Union R&TTE Directive quotes a maximum SAR value of 2 W/Kg. This value includes a substantial margin of safety. The Identicom is therefore far below this limit and actual Identicom SAR values during normal operation are often below this 0.5 W/Kg maximum value.

Risks Associated With Pacemakers

Numerous studies have been performed to assess the risks of such devices impairing the correct functioning of pacemakers.

There is a general consensus across the studies found in regard to the following:

- The degree of protection of pacemakers against the effects of RFEE depend on the design of pacemaker. The latest pacemakers with ceramic filters appear to immune to RFEE.
- Exposure to pacemakers of RFEE depends on the proximity of the mobile phone type device. Recommendations suggest the minimum distance between pacemaker and mobile phone type device to be in the range 10 – 20 cm.

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- Exposure to pacemakers of RFEE depends on the RFEE emission levels of the mobile phone type device.
 - The effects of interference due to exposure to RFEE in pacemakers are temporary. Once the source of RFEE emissions is removed the pacemaker reverts back to correct functionality.
 - Mobile phone based devices can potentially cause interference with pacemakers when in use on a call and when in standby, but not when turned off.
 - Those at highest risk are individuals who are completely dependant on pacemakers (those individuals that cannot generate spontaneous cardiac rhythm).

Part of the conclusion in the above mentioned Identicom testing at the Federal Institute for Occupational Safety & Health in Berlin, Germany states that due to it's low SAR value 'There is no health risk for persons with cardiac pacemakers or other active medical implants'.

If in doubt the wearer should seek advice from their doctor or the manufacturer of their pacemaker.

References

1. British Heart Foundation
2. Medicines & Healthcare products Regulatory Agency, UK Government Agency
G Calcagnini et al, Physics In Medicine & Biology, Institute of Physics, June 2003
3. UK Department of Health
4. Dr Izzet Tandogen et al, International Journal of Cardiology, August 2005
5. Assessment of possible health risk for persons equipped with an activated Identicom unit, Klaus Hentschel, Federal Institute For Occupational Safety and Health, 14th February 2005.