

“ITU Workshop on Human Exposure to EMF”
Telecom Italia Innovation Center (Via Olivetti 6 , Turin, Italy)
Thursday, 9 May 2013

SAR REPORTING FOR MOBILE PHONES:

SAR-Tick Initiative

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Mobile Manufacturers Forum



- About the MMF
- SAR Limit – Mobile Phones
- SAR Reporting Phase I
- 5-Continents-Survey on SAR Consumer Awareness
- SAR Reporting Phase II

About the MMF

- International association of radio equipment manufacturers
 - Representing around 80% of global handset sales
 - The providers of the majority of global network infrastructure
- Association's focus:
 - health and safety
 - accessibility
 - counterfeit
- Key areas of activity:
 - research and standards support
 - regulatory harmonisation
 - public communications

MMF Members

- Alcatel Mobile Phones
- Apple
- Cisco
- Ericsson
- Intel
- LG
- Motorola Mobility
- Motorola Solutions
- Nokia
- Nokia Siemens Networks
- Samsung
- Sony

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ICNIRP Exposure Limit: Mobile Phones

	ICNIRP Limits		
Exposure Characteristic	Whole Body averaged Specific Absorption Rate	Local SAR averaged over 10 g of tissue	
		Head & Trunk	Limbs
Workers' exposure	0.4 W/kg	10 W/kg	20 W/kg
General Public exposure	0.08 W/kg	2 W/kg	4 W/kg

Guidelines for Limiting Exposure to Time-varying Electric, Magnetic and Electromagnetic Fields (up to 300 GHz).” Health Physics, April 1998, vol.74, number 4, pp. 494-522

SAR Compliance Testing

- 2 measurement standards in place:
 - IEC 62209-1 (head, no separation distance)
 - IEC 62209-2 (trunk = body-worn, separation distance of up to 25 mm can apply)
- Mobile phones are **tested** for compliance **at the highest possible power level.**
- Video on SAR testing:



- Get more info at: www.emfexplained.info/?ID=24898

- About the MMF
- SAR Limit – Mobile Phones
- **SAR Reporting Phase I**
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- SAR Reporting Phase II

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SAR information

What is a SAR value?

Every mobile phone model is tested for radio wave emissions. Using an internationally standardised method that meets government and regulatory requirements, a measurement is made to determine how much electromagnetic energy is absorbed by body tissue. This gives the SAR (specific absorption rate) value. Governmental and regulatory agencies have established SAR limits under which cell phone use has been determined by them to be safe. All Nokia phones are designed to comply with the relevant governmental SAR level.

Important user information

Features of phone models are sometimes revised or improved during production. This could lead to a situation where the same phone type appears to have different SAR values. If so, please refer to the user guide shipped with your phone to see the SAR value of your phone.

Find the SAR value for your phone

Use our service (provided in several languages) to check the SAR value and certification information for your Nokia mobile phone.

Location: Austria

Language: German

Phone Model: Please choose

How to find your phone model

- Simply remove the battery from your phone, and the model is printed on the label inside
- On some phone models the model number may be printed on the outside of the phone or on the SIM card tray

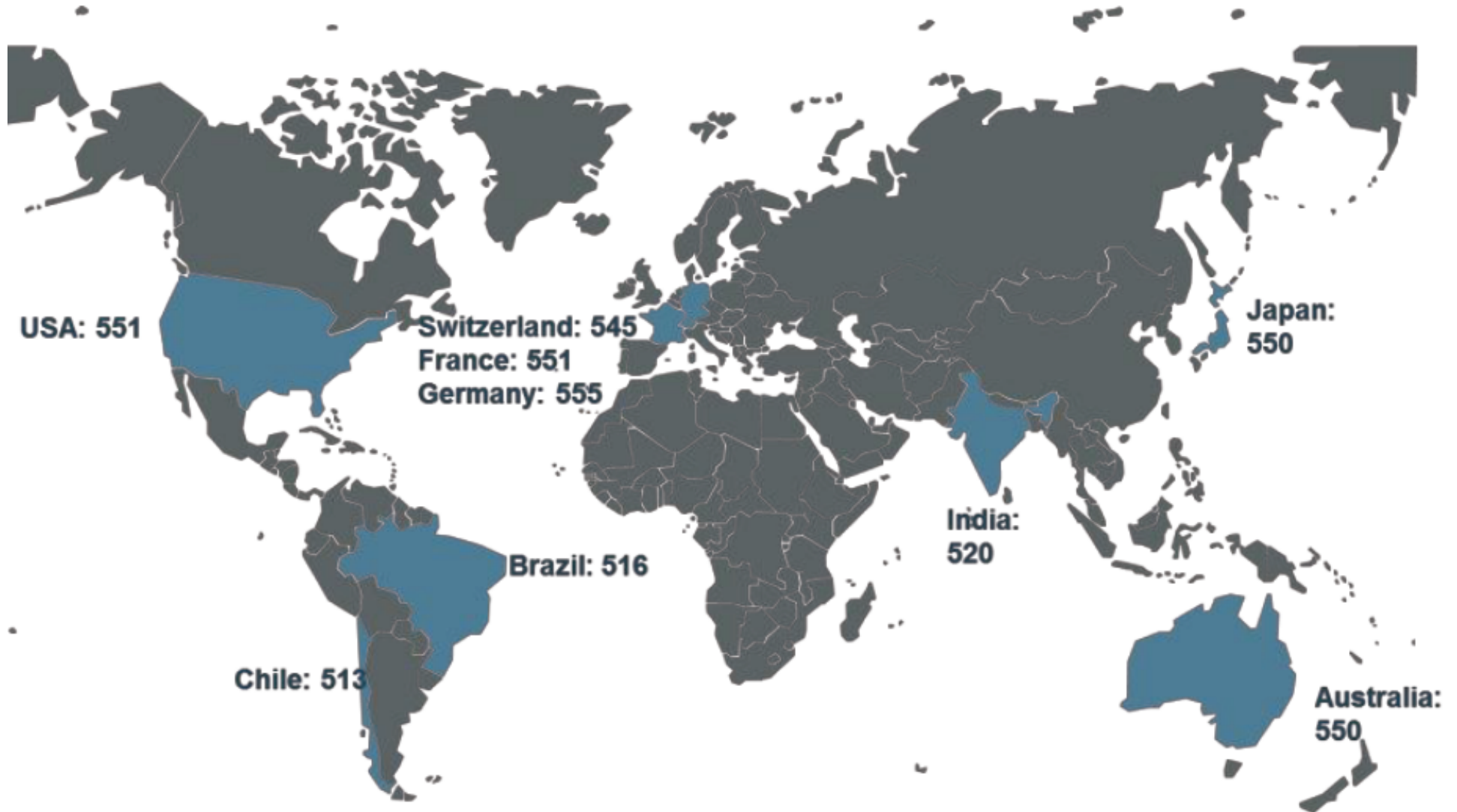
Experience gathered since 2001

- Little real interest from consumers based on
 - web-site stats,
 - enquiries to help-lines or
 - evident at retail level.

- Supported by conclusions from 9 country Survey of Public Awareness on SAR

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- SAR Reporting Phase II

5 Continents, 9 Countries



ABSTRACT ,Mobile Phone Users Knowledge of Specific Absorption Rate (SAR) – An International Survey‘

Jack Rowley^{1*}, Chris Althaus^{2*}, Michael Milligan^{3*} and Dagmar Wiebusch^{4*}

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Testing of mobile phones for compliance with exposure limits, termed the specific absorption rate (SAR) with units of watts per kilogram, is conducted under conservative conditions, such as maximum power, with a phantom that is representative of both adults and children¹. The SAR result from such testing is included in phone manuals and accessible from websites². The relevance of SAR to purchase decisions was investigated previously and the authors reported that provision of SAR information did not increase perceived risk and that consumers evaluated SAR not on a threshold basis but as an indicator of relative risk³.

In our survey of 4,852 mobile phone users from nine countries (Australia, Brazil, Chile, France, Germany, India, Japan, Switzerland and the USA) we assessed understanding of SAR; the importance of SAR information to purchase decisions and expectations of availability of SAR information. We also assessed knowledge of measures that individuals can take to control their exposures. We found that concern about possible health risks from using mobile phones was generally low across all markets but with substantial variation. In purchase decisions, SAR rated lowest of 21 pre-defined factors with the most important being factors related to network quality, phone experience and cost. The most commonly identified ways to reduce exposure were to use a personal hands-free kit (66%) and make fewer calls (57%).

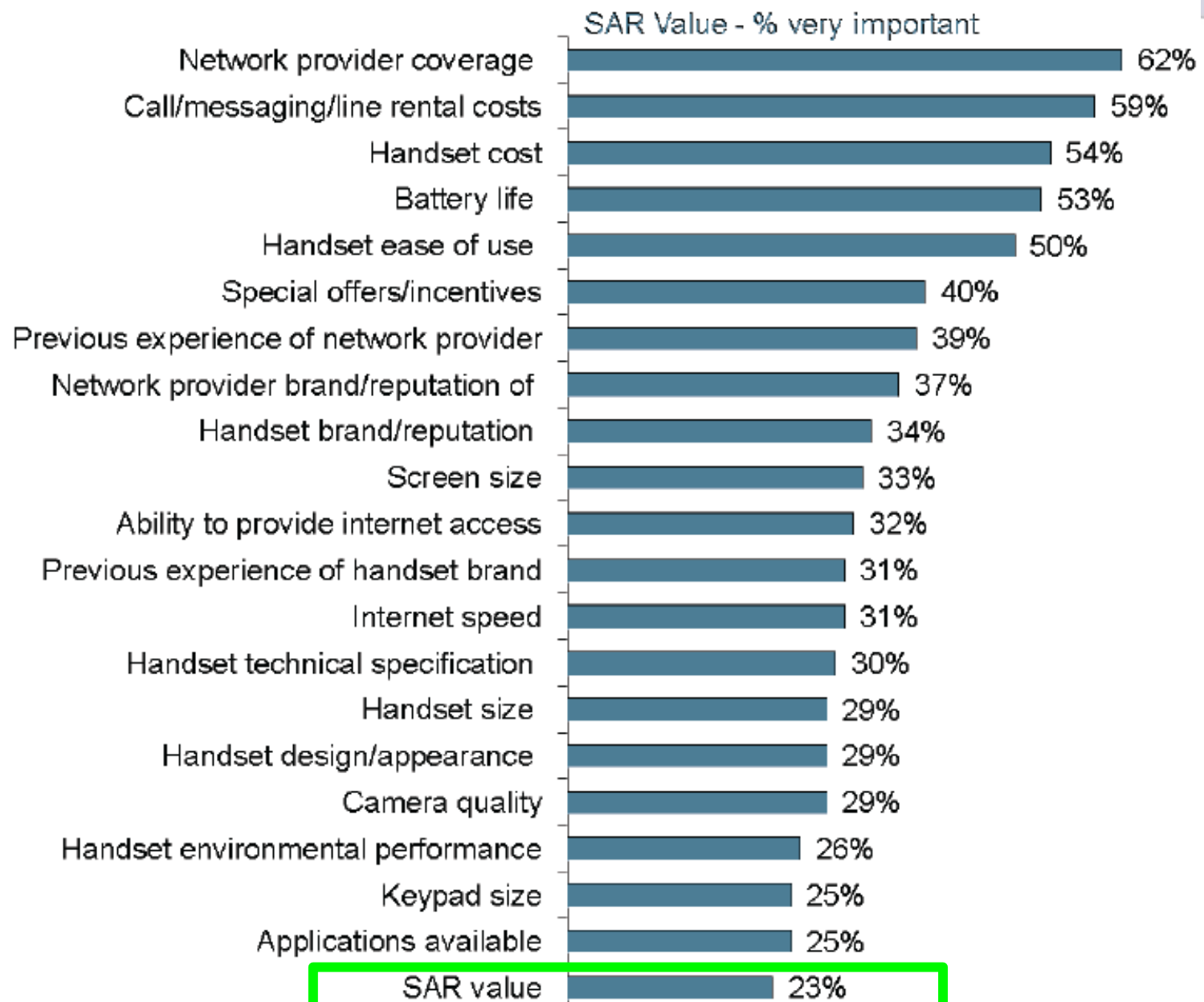
We conclude that there is generally a low level of concern about possible health risks and widespread misunderstanding of SAR. Websites and manufacturer manuals are the preferred locations for SAR information and can be accompanied by explanatory information for consumers.

1 Comparisons of computed mobile phone induced SAR in the SAM phantom to that in anatomically correct models of the human head, Beard et al., IEEE Transactions on Electromagnetic Compatibility, 48(2):397-407, May 2006.

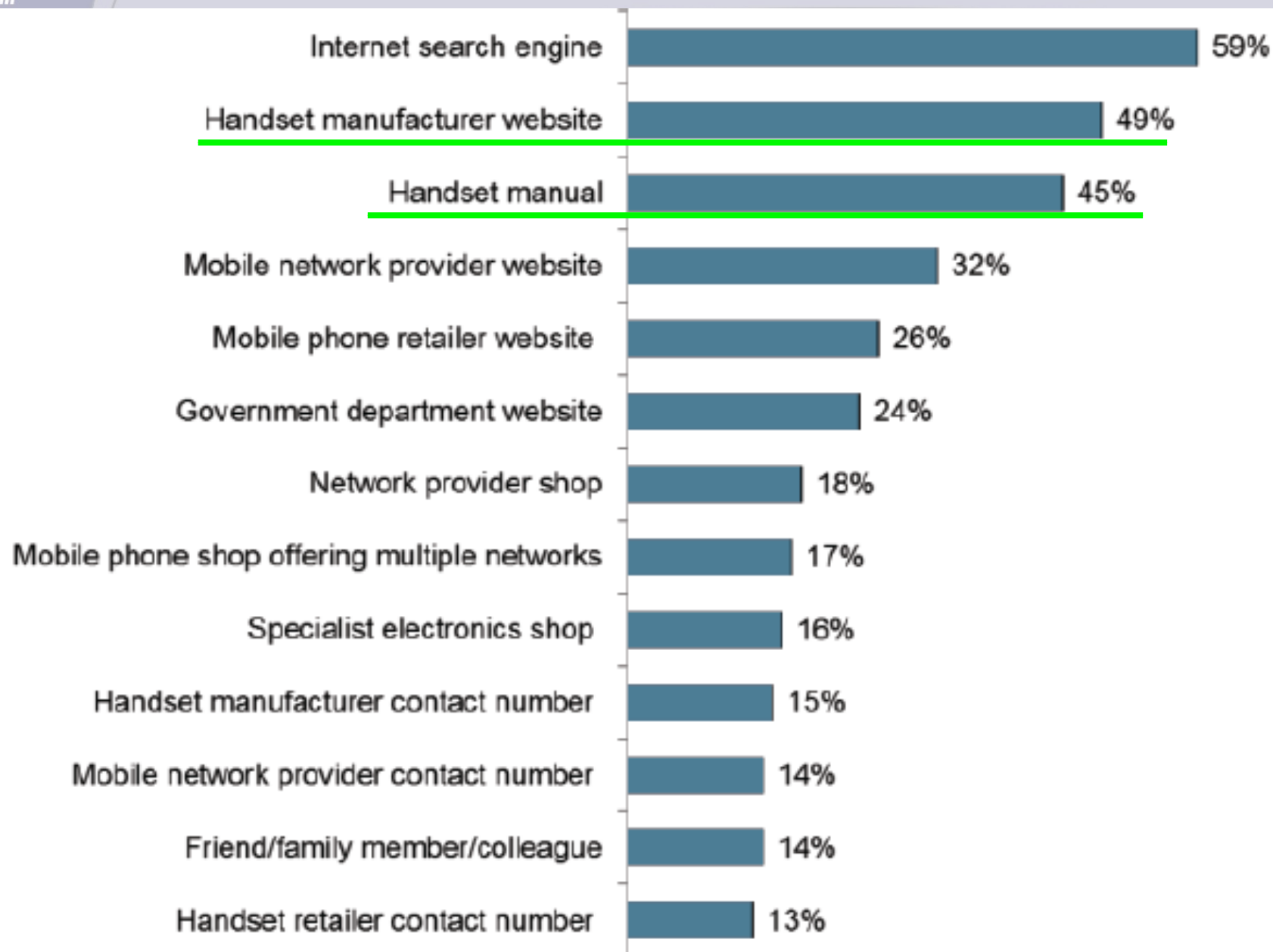
2 <http://www.sartick.com/>

3 Influence of information about specific absorption rate (SAR) upon customers' purchase decisions and safety evaluation of mobile phones, Wiedemann et al., Bioelectromagnetics, 29(2):133 - 144, February 2008.

What determines a mobile phone purchase



Sources of SAR Information



- About the MMF
- SAR Limit – Mobile Phones
- SAR Reporting Phase I
- 5-Continents-Survey on SAR Consumer Awareness
- **SAR Reporting Phase II**

SAR Reporting Phase II: 3 Key Elements

- The inclusion of one **additional information note** in the front part of the user manual.
- The development of **SARTick website** to provide comprehensive information source on SAR issues.
- **Modification of the existing SAR information text** in the user manual.

Key Element “Additional Front Section Info”

SAR

www.sar-tick.com

This product meets applicable national SAR limits of <2.0W/kg or 1.6W/kg>. The specific maximum SAR values can be found in the xxxx section of this user guide.

When carrying the product or using it while worn on your body, either use an approved accessory such as a holster or otherwise maintain a distance of xx cm from the body to ensure compliance with RF exposure requirements. Note that the product may be transmitting even if you are not making a phone call.

Key Element “www.sartick.com”

➤ comprehensive info source on SAR issues



➤ The MMF is working with consumer groups in a number of countries to help educate consumers on SAR issues and to promote awareness of [SARTick.com](http://www.sartick.com) website.

(www.sartick.com as well as www.sar-tick.com will work)

Key Element “Modified SAR Information Text”

THIS DEVICE MEETS INTERNATIONAL GUIDELINES FOR EXPOSURE TO RADIO WAVES

Your mobile device is a radio transmitter and receiver. It is designed not to exceed the limits for exposure to radio waves (radio frequency electromagnetic fields) recommended by international guidelines. The guidelines were developed by an independent scientific organization (ICNIRP) and include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

The radio wave exposure guidelines use a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit for mobile devices is 2 W/kg. Tests for SAR are conducted using standard operating positions with the device transmitting at its highest certified power level in all tested frequency bands. The highest SAR values under the ICNIRP guidelines for this device model are:

Maximum SAR for this model and conditions under which it was recorded.		
Head SAR	UMTS 1900 + Wi-Fi + Bluetooth	x.xx
Body-worn SAR	GSM 1800 + Wi-Fi + Bluetooth	x.xx

During use, the actual SAR values for this device are usually well below the values stated above. This is because, for purposes of system efficiency and to minimize interference on the network, the operating power of your mobile device is automatically decreased when full power is not needed for the call. The lower the power output of the device, the lower its SAR value.

Body-worn SAR testing has been carried out <using an approved accessory or> at a separation distance of x.x cm. To meet RF exposure guidelines during body-worn operation, the device should be <in the approved accessory or> positioned at least this distance away from the body. If you are not using <an approved accessory> ensure that whatever product is used is free of any metal and that it positions the phone the indicated distance away from the body.

Organizations such as the World Health Organization and the US Food and Drug Administration have stated that if people are concerned and want to reduce their exposure they could use a hands-free device or reduce the amount of time spent on the phone.

For more information.....

SAR Table

Maximum SAR for this model and conditions under which it was recorded.

Head SAR ⁽¹⁾	UMTS 1900 + Wi-Fi + Bluetooth	X.XX
Body-worn SAR ⁽²⁾	GSM 1800 + Wi-Fi + Bluetooth	X.XX

(1) Measured according to IEC 62209-1, no separation distance applies

(2) Measured according to IEC 62209-2, separation distance can apply

WHO and FDA Reference

- The text also includes WHO and FDA **information on reducing exposure** should a user wish to do so (quote):

“Organizations such as the World Health Organization and the US Food and Drug Administration have stated that **if people are concerned*** and want to reduce their exposure they could **use a hands-free device** or **reduce** the amount of **time spent on the phone.**”

(*emphasis added)

- Nuclear power
- Spent nuclear fuel repository
- The sun
- Large accelerator facilities
- Magnetic fields and wireless technology
- National Metrology Laboratory

News

[Start / News](#)

Less support for possible link between cancer and using mobile phones

A possible link between cancer and use of mobile phones was not supported by a new report about recent research on electromagnetic fields published by the Swedish Radiation Safety Authority's Scientific Council on Electromagnetic Fields.

Today the Swedish Radiation Safety Authority (SSM) released a report about recent research on electromagnetic fields. This report was produced by the Authority's Scientific Council on Electromagnetic Fields.

In spring 2011, IARC, the World Health Organization's (WHO) cancer research institute, classified radiofrequency fields as possibly carcinogenic to humans. This classification by the research institute was based on two epidemiological* studies that indicated a somewhat elevated risk of tumours of the brain and acoustic neuroma for users of mobile phones.

Additional studies have been published since 2011. Altogether, these studies do not support a link between using mobile phones and an elevated risk of developing cancer, a conclusion also supported through national cancer statistics from several countries.

News

» 2013-05-03 Less support for possible link between cancer and using mobile phones

» 2013-03-14 Around 100 authorities involved in joint Nordic-Baltic crisis exercise

» 2013-01-08 Lessons from Fukushima Dai-ichi to be discussed at Nordic seminar in Stockholm on nuclear power

» 2012-12-21 National action plan for the European Union

» 2012-12-06 Oskarshamn 2 ordered to be shut down

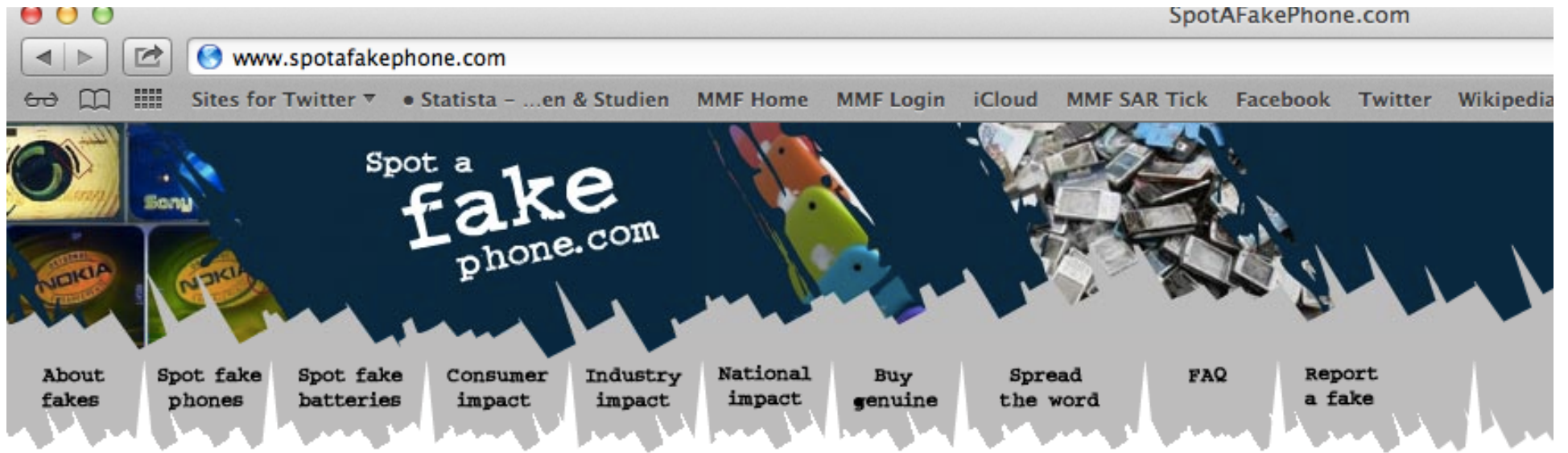
The Swedish Radiation Safety Authority's recommendations remain in effect until further notice:
(...) use hands-free equipment (...)

Summary “SAR Reporting Phase II”

- Expands a decade-long commitment to SAR reporting
- It consists of the following elements:
 - An **additional SAR section and pictogram** at the **up front** in manuals
 - The development of **SARTick website** for consumers
 - **Modification** of the existing **SAR information** text
- These changes and additions provide:
 - Additional information for consumers in user manuals
 - Additional information resources for consumers
 - **A solution for politically driven SAR discussions**
- Licencing of SARTick pictogram and texts possible

**As SAR is so important to many people,
one more thought:**

**How to tackle
counterfeit phones?**



**Fighting public health risks
posed by fake phones requires**

**more information
+
closer cooperation:**

Join spot-a-fake-phone!

English

spotafake
spotafake

Ownit China is getting serious – new developments in IP rights enforcement ow.ly/kFknk fb.me/E4glChCr
yesterday · reply · retweet · favorite

Ownit Intellectual property protection...Has China turned a corner? bit.ly/ZLJOV8 #piracy #copyright #counterfeit
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Join the conversation

Thank you.

Questions? Further Information needed?



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Since December 2006:

MMF's Director for Europe, Middle East and Africa

2001 – 2006:

Managing Director, Forum Mobilkommunikation, Austrian national trade organisation

1990 – 1999:

Member of the Austrian Parliament, focused on infrastructure issues, telecommunication, renewable energy and environment

1990: Master of Laws, University of Graz, Austria.