



# **Irish Cellular Industry Association**

## **Frequently Asked Questions**

### **The ICIA**

#### **What is the purpose of the Irish Cellular Industry Association?**

Our Mission is to positively profile mobile technology while addressing industry issues relating to EMF covering Media Relations, Planning, Community Relations, Legislation, WHO, The Expert Group, Public Affairs & Research

#### **Who are the members of the ICIA?**

Membership of the ICIA is made up of the four mobile operators in Ireland: 3, Meteor, O2 and Vodafone.

### **Base Stations & Handsets**

#### **How do mobile phones work?**

Mobile phones have been in everyday use for 20 years. They are low-powered two-way radios, converting human voice and data messages into radio signals.

When making a call, these radio signals are sent from mobiles to the nearest base station these calls are then forwarded on to other mobiles or fixed networks. Mobile phones and the antennas mounted on base stations produce radio frequency (RF) fields, similar to those emitted by TV transmitters and radios used by taxis, emergency services and broadcasters.

International health and safety guidelines, endorsed by the World Health Organisation (WHO), are in place to ensure radio waves stay below a certain level, limiting the public's exposure to them. All base stations in Ireland produce RF fields well below the international guidelines.

The Commission for Communications Regulation (ComReg) measure the non-ionising radiation (NIR) emissions at these sites in the Republic of Ireland and provide an on-line facility to allow the public to view details of the mobile masts throughout Ireland, (GSM and 3G). They have also commissioned three audit reports to verify that licensed operators are in compliance with their licence conditions relating to emission limits for non-ionising radiation and can be viewed at [www.comreg.ie](http://www.comreg.ie)

### **Why do we need base stations?**

Mobile phones do not work without base stations (commonly called 'masts'). Without them, a call cannot be made. They need to be in close proximity to where people use their phones.

In order to enable the Irish population across the country to make calls, each of the four mobile phone operators divides Ireland into thousands of individual geographic areas known as 'cells'. At the heart of each cell is a base station. The cells overlap at the edges so as to provide contiguous coverage for the customer. If the base stations are too far apart, calls cannot be handed over from one area to another and are interrupted or 'dropped' when mobile users are on the move.

Cells can be big or small and base stations are usually built about 200-500m apart in towns and 2-5km apart in rural areas. They can be on freestanding lattice towers, monopoles, rooftops, lamp posts, trees or flagpoles. Antennas are often integrated into the design of buildings around us.

The size of a cell also depends on the local terrain. Radio signals can be blocked by trees, buildings, hills and valleys, so base stations may have to be closer together.

Base stations are limited in how many calls they can carry at any one time. Large outdoor base stations can handle about 100 to 150 simultaneous calls, while a small base station typically inside a building carries about 30. In an area where call traffic is high, additional base stations may have to be built to provide effective customer service.

### **What exactly are the emissions from mobile phones and base stations?**

Mobile phones and the base stations that make them work utilise electromagnetic fields (EMF) to transfer information and make mobile communications possible. These fields are part of the electromagnetic spectrum which ranges from low frequency (such as electric power transmission), through radio frequency (used for mobile phones and masts) and visible light, and on to high frequency forms such as ultraviolet and x-rays.

In the non-ionising radio frequency part of the spectrum which includes everything below visible light, there is not enough energy to alter biological structures. Electromagnetic fields occur naturally – in sunlight and the earth's

magnetic field. They are also used for TV, radio, communications by the emergency services, taxi firms and public utilities, car fobs and baby monitoring devices; and they are produced by any appliance that uses an electrical current from the fridge to a hairdryer.

### **Are mobile phones and base stations safe?**

There has been extensive research into the effects of EMF on human health and the consensus of scientific opinion is that there is no proven adverse health effect. The World Health Organisation has said that *“Despite extensive research, to date there is no evidence to conclude that exposure to low level electromagnetic fields is harmful to human health.” [What are Electromagnetic Fields, 2003]*

Again, in 2006, the WHO said *“Considering the very low exposure levels and research results collected to date, there is no convincing scientific evidence that the weak RF signals from base stations and wireless networks cause adverse health effects.”*

### **How can we be sure that research will not show harmful effects in years to come?**

There is no evidence to suggest that in the future we will start to see health problems attributable to mobile phone technology. Research into electromagnetic fields goes back over 100 years and this enormous body of research has been analysed by scientists from all over the world. However, whilst science can prove that an effect occurs, it cannot prove that an effect does *not* occur. Science cannot prove a negative. Because of this, research continues, checking and rechecking any reports of a potential effect and conducting carefully designed studies both in the laboratory and in the field.

### **Is EMF the next tobacco or BSE public health scare?**

The health risks of BSE and tobacco are scientifically proven and universally accepted by the scientific community. The consensus of scientific opinion with regard to EMF is that after years of research there is no proof of any risk to human health.

### **Are children more susceptible to EMF emissions from mobile phones or base stations?**

With regard to mobile phone usage, we take our lead from the World Health Organisation which recognises that present scientific information does not indicate the need for any special precautions for the use of mobile phones. If individuals are concerned they may choose to limit their own and their children's exposure from mobile phones by using hands-free kits or limiting the length of calls.

Ultimately, as with many things in life, parents have to weigh up the benefits and risks and decide whether a mobile phone is appropriate for their own children.

Exposure from a nearby base station is between a thousand and a million times less than from a handset and the guidelines to which all the industry base stations comply, and which have the formal backing of the World Health Organisation, are designed to protect all of us, young and old, 24 hours a day.

In January 2005, the UK Health Protection Agency said in its report, *“Mobile Phones and Health”*, that the measurements it had carried out demonstrated that *“there is no scientific basis for establishing minimal distances between a base station (mast) and areas of public occupancy.”*

### **Who sets the guidelines to which Mobile Operators adhere?**

The International Commission on Non-Ionising Radiation Protection (ICNIRP). You can visit their website [www.icnirp.org](http://www.icnirp.org). These guidelines are recommended to us by Irish Government, by the European Union and have the formal backing of the World Health Organisation. They are there to protect all sectors of the population, 24 hours a day. These guidelines are audited and regulated by the Commission for Communications Regulation, ComReg.

### **What about non-thermal effects?**

The World Health Organisation (Fact Sheet 193) states: *“The guidelines developed by the International Commission on Non-Ionising Radiation Protection are based on a careful analysis of all scientific literature - both thermal and non-thermal effects - and offer protection against all identified hazards of RF energy with large safety margins.”*

### **What is a SAR value?**

Specific Absorption Rate (SAR) is an indication of the level of radio frequency fields absorbed into the body whilst using a mobile phone. The International Commission on Non-Ionising Radiation Protection (ICNIRP) has issued guidelines for SAR values for handsets with a maximum level of two watts per kilogramme. All Irish operators only sell handsets that are compliant with ICNIRP guidelines. The ICIA has a separate fact sheet on SAR, downloadable from [www.icia.ie](http://www.icia.ie).

### **Is it safe to carry a mobile phone close to your body?**

There is no evidence to suggest that holding a mobile phone close to your body has any harmful effect provided the phone is compliant with the recommended ICNIRP guidelines. All handsets sold by Irish mobile phone operators comply with these guidelines.

Handset SAR values are currently measured for exposure to the head using international test standards. In addition, we recognise that handsets are increasingly worn near the body (on a belt or in a pocket), so we have asked our manufacturers to supply us with a body-worn SAR measurement based on the US test protocol. Some manufacturers are updating their User Guides with information on body-worn use and customers who purchase a new mobile phone or mobile device may therefore notice a sticker and/or leaflet in the box requesting that they read the information provided with the device before using it.

**People can choose whether to use a handset but not whether a base station is put up nearby. Is the public ever consulted about plans?**

We have an obligation to provide a service for mobile phone users throughout the country. If we can reach a compromise over siting and design of a base station, we will. We are aware of public concerns and we have developed a strategy to consult with local authorities and, when appropriate, local communities at an early stage. Our employees and our site acquisition agents are well aware of the importance of this strategy. If invited the members of the ICIA are committed to meet with members of the public to discuss any concerns they may have. Ultimately, it is a question for the democratic process – the planning system – to decide on these issues.

**Why don't Operators share base station sites with each other?**

We do. This makes good commercial and environmental sense. Our first choice is to share. However, it must work for us technically, and if it does, we still have to increase the height of the existing structure, which may not be the best environmental choice. Approximately 60% of our installations are located on existing structures including sites we share with other operators and other utilities.

**Do shared sites mean higher emissions?**

A shared site has higher emission levels than a single operator site although each operator might transmit at different power levels. However, shared sites are checked and certified for ICNIRP compliance and the resulting emission levels will still be many times below ICNIRP guidelines.

Each year, ComReg, the telecommunications regulator conducts an independent survey of base stations and publicly report their results. This survey continues to find that each base station surveyed complies with ICNIRP guidelines and base stations are regularly found to be hundreds of times below the ICNIRP standard.

**What is 3G technology?**

Third generation (3G) is a term used to describe the next generation of mobile phone systems which will transfer data as well as voice. The advanced technology offers internet access and the ability to view video footage. 2G,

also known as GSM, is the current second generation technology. The first mobile phone technology, analogue, was phased out a number of years ago.

### **Do you need a lot more sites for 3G or 3G Broadband (HSDPA)?**

Much of the requirement for new technologies will be met by adapting the existing network of sites. Some new sites are required but the majority of these will be located on existing structures such as buildings and business parks.

### **Can anyone guarantee that mobile technology is 100% safe?**

No one can give a guarantee that any process, product or technology is 100% safe. Scientific research can say that there is no evidence of risk or it can demonstrate that any risk is very low, but it cannot produce evidence of no risk.

### **What is electromagnetic sensitivity?**

In the modern world we are all exposed to electromagnetic fields from a vast range of sources - power lines, radar, computer screens, radio and television transmission, mobile phones and masts, emergency services and taxi communications, shop security systems and even baby monitoring devices. In fact, any household electrical appliance, from hairdryers to fridges, produces electromagnetic fields.

Certain individuals have reported suffering from uncomfortable and often disabling symptoms when exposed to electromagnetic fields in environments where the field levels are usually no greater than normal, and certainly well within accepted international standards.

The syndrome is known as Electromagnetic Hypersensitivity (EHS) or sometimes Electrical Hypersensitivity. However, since the link between the symptoms and the cause has not been established, the World Health Organisation recommends the term Idiopathic Environmental Intolerance (IEI). The term IEI is described as:

- an acquired disorder with multiple recurrent symptoms
- associated with diverse environmental factors tolerated by the majority of people
- not explained by any known medical, psychiatric or psychological disorder

Symptoms differ from individual to individual and can vary widely in their severity. For some, the reported symptoms are severe enough to change their way of life. For others the condition is relatively easy to manage.

### **What if I am still concerned?**

If you are concerned about the health effects of mobile phones or base stations, we suggest that the World Health Organisation's guidance on the subject might be helpful. The WHO concludes that the current scientific research indicates that exposure to radio frequency fields, such as those

emitted by mobile phones and base station, is unlikely to cause any adverse health effects.

The WHO states that on the basis of present scientific information there is no indication that there is a need for special precautions for use of mobile phones. However, if you are worried and you personally want to take precautionary measures, the WHO suggests you might wish to use a “hands free” device to keep mobile phones away from the head and body, or limit the length of calls.

### **Where can I go for further information?**

Commission for Communications Regulation - ComReg

[www.comreg.ie](http://www.comreg.ie)

Department of Communications, Marine and Natural resources

[www.dcmnr.gov.ie/Communications/](http://www.dcmnr.gov.ie/Communications/)

GSM Association

[www.gsmworld.com](http://www.gsmworld.com)

World Health Organisation

[www.who.int/peh-emf](http://www.who.int/peh-emf)

International Commission on Non Ionising Radiation Protection

[www.icnirp.org](http://www.icnirp.org)

Mobile Telecommunications Health and Research programme

[www.mthr.org.uk](http://www.mthr.org.uk)

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