



**BASE TRANSCIVER STATIONS &
ELECTROMAGNETIC FREQUENCIES:
SEPARATING FACTS FROM MYTHS**

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Structure of Presentation



1. Introduction
2. What if EMF
3. Public concerns on EMF
4. Role of the Authority on public safety
5. International harmonisation of EMF safety limits
6. Myths and facts on EMF
7. Conclusions

Introduction



The Communications Authority of Kenya (CA) is the regulatory authority for the ICT industry in Kenya with responsibilities in:

- Telecommunications
- Cyber security
- E-commerce
- Broadcasting and
- Postal/courier services

Introduction



CA is also responsible for:

- managing the country's numbering and frequency spectrum resources
- administering the Universal Service Fund (USF)
- safeguarding the interests of users of ICT services.

The Authority is specifically responsible for licensing of operators to deploy Base Transceiver Stations & managing of Electromagnetic Frequencies.

Introduction



-The UN body that co-ordinates global management of frequency spectrum



-Adoption of ITU recommendations
-Regional Harmonization

EACO

-Coordination with our neighbouring countries within the East African Community



-Development of regulations best suited for Kenya

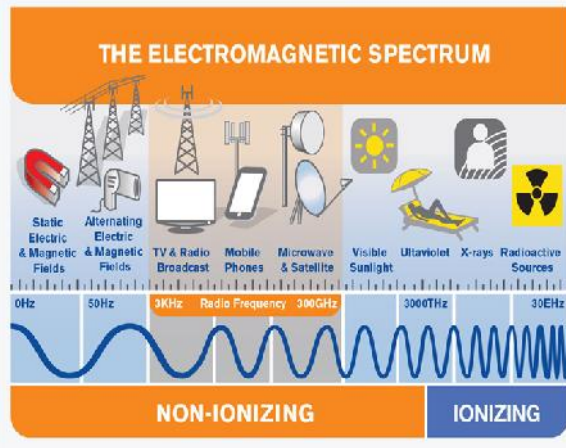
What is Electromagnetic Radiation?



Electromagnetic radiation refers to the waves of electromagnetic field, propagating through space, carrying energy or signals.

We live in a radiation world and are constantly exposed to both natural (e.g. UV light from the sun) and man – made radiation (e.g. Radio waves from TVs and Radios) .

What is Electromagnetic Radiation?



Radio Signals are categorised into two;

- 1. Non Ionizing signals** - which means that they cannot directly impart enough energy to a molecule to break chemical bonds.
- 2. Ionizing signals** - which can strip electrons from atoms and molecules, producing changes that can lead to possible tissue damage e.g. X-rays

Public concerns on EMF



With deployments of radio communication installations in the community, people living close to base stations and transmitter sites are concerned over potential harmful effects that EMF may have on their health.

Much of public concern relates to the possibility of health hazards from long-term exposures at levels too low to produce measurable heating.

Public concerns on EMF



Three agencies are mandated to protect the public against exposure to harmful radiation from ICT equipment in Kenya;

- The National Environment Management Authority (NEMA).
- The Radiation Protection Board
- The Communication Authority of Kenya

Role of the Authority



The Authority is responsible for;

- Defining of maximum permissible levels of EMF radiation for radio frequency transmissions (between 9 KHz to 300 GHz, which generate non-ionising radiation).
- Type Approval of all Telecommunication Equipment to ensure compliance to the EMF standards
- Conducting evaluation of Radio transmission installations to ensure compliance to limits of exposure to EMF Radiation for Workers and the public.
- Sensitize the public on effect of exposure to Electromagnetic Fields within the Radio Frequency Spectrum

International harmonisation of EMF safety limits



- The International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines form the basis of WHO and ITU Recommendations to governments and have been widely adopted by Kenya.
- The ICNIRP EMF guidelines cover the frequency range 9 kHz – 300 GHz which includes the radio frequency of all wireless ICT systems and devices. The ICNIRP EMF guidelines are based on a threshold level of exposure.
- The World Health Organization (WHO). The World Health Organization established the International EMF Project in 1996 to assess the scientific evidence of possible health effects of electric and Electromagnetic fields and public health' that deals with issues relating to radiation around mobile phones and base stations available at <http://www.who.int/peh-emf/en/>

Myths and facts on EMF



Myth	Fact
Mobile phones are so powerful that they literally cook your brain	Mobile phones typically have an output of less than 1 watt that is very negligible and cannot affect the brain
It is dangerous to live next to a base station	At the ground level, the intensity of radiofrequency radiation from base stations are less than one thousandth of those from mobile phones and are generally much less than those from the local radio and television stations.
No body is really investigating the dangers of Electromagnetic radiation	WHO and many agencies are coordinating scientific studies to investigate these health effects

Conclusion



- Despite extensive research, to date there is no evidence to conclude that exposure to low level electromagnetic fields is harmful to human health
- The Communications Authority of Kenya is exercising its mandate to ensure that Telecommunications operators adhere to regulations that limit human exposure to Electromagnetic radiation



Questions?



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