

# Radiation Safety of Mobile Phone Radio Base Stations

Telecommunications Regulatory Affairs Advisory Committee  
22 August 2013

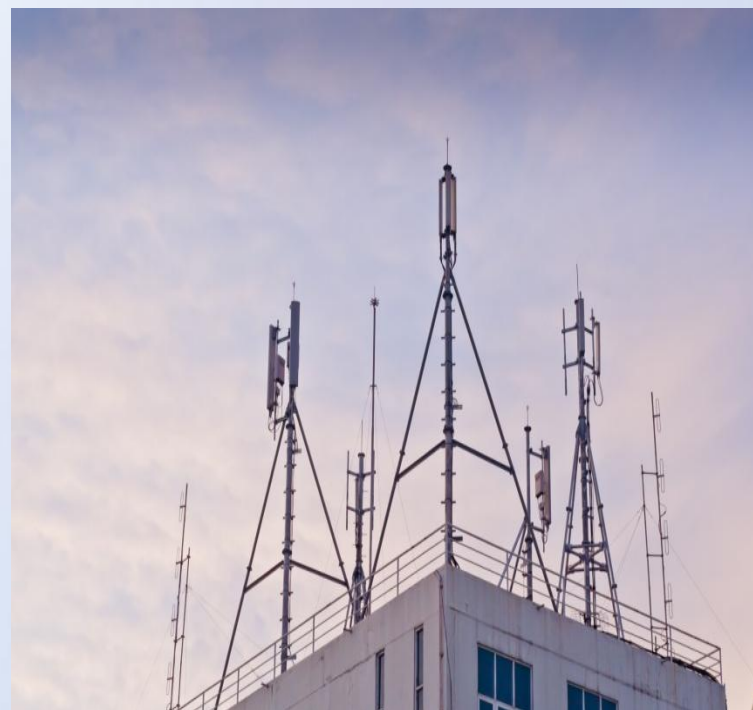
# Purpose

To brief Members about

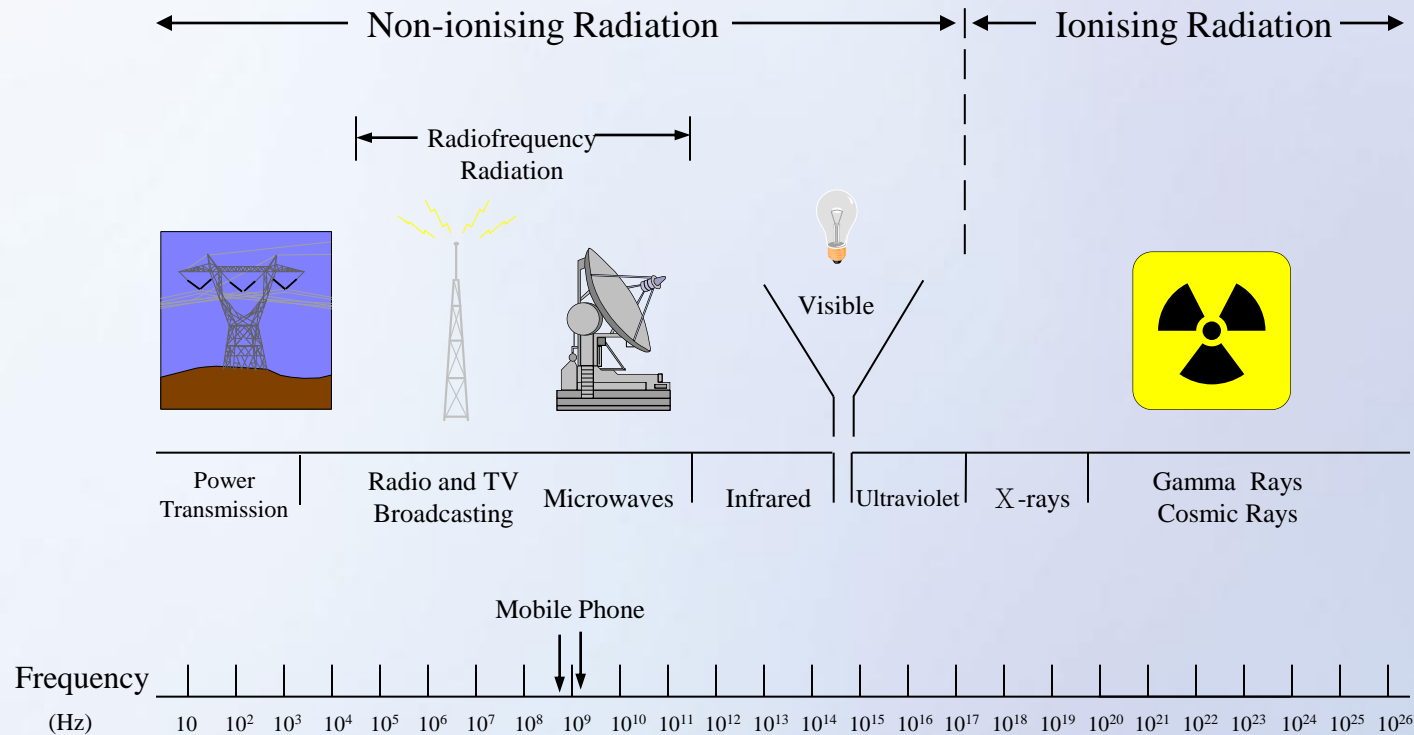
- regulatory requirement on radiation safety for RBS; and
- measures to address public concern over RBS radiation

# Mobile Phone RBS

- To provide an uninterrupted service, mobile network operators need to install mobile phone RBS on a territory-wide basis
- Over 31,000 RBS are installed
- There is increasing public awareness of radiation safety



# Classification of Electromagnetic (EM) Radiation



# EM Radiation of RBS

- RBS emits EM radiation in form of radiofrequency (“RF”) signals
- RF signals
  - relatively low frequencies
    - ~ 3 kHz to 300 GHz
  - non-ionising radiation (“NIR”)
    - low energy level, which is insufficient to cause ionization of atoms or molecules

# Radiation Safety Standard

- In consultation with the Department of Health, limits as recommended by the International Commission on Non-ionising Radiation Protection (“ICNIRP”) are adopted as the radiation safety standard
- According to the World Health Organization, there is no convincing scientific evidence to suggest that NIR levels below the ICNIRP limits will cause adverse health effects
- ICNIRP (or similar) limits are widely used
  - including the USA, Canada, Germany, France, Korea, Australia and New Zealand etc

# ICNIRP Limits

- ICNIRP
  - set limits for exposure to NIR
  - applicable to frequency bands of RBS:

Frequency Band	800/900 MHz	1800 MHz	Beyond 2000 MHz
Time-varying fields	41.3 V/m	58.3 V/m	61.0 V/m

# Regulation concerning Radiation

## Safety of RBS

- According to telecom licence condition, operators are required to obtain approval from the Communications Authority before putting their RBS into operation
- Operators shall observe “Code of Practice for the Protection of Workers and Members of Public Against Non-Ionising Radiation Hazards from Radio Transmitting Equipment”
  - to ensure that the overall radiation levels in public areas do not exceed ICNIRP limits
- Operators are required to submit the reports of NIR measurement within one month from the commencement of RBS operation
- OFCA will conduct a sample check on RBS by on-site measurement of radiation level



# Responses to Public Concern over RBS Radiation

- Issue leaflet “Know more about Radiofrequency Electromagnetic Radiation”
- Establish a web page on safety of radio frequency radiation safety
- Set up a hotline to respond to public enquires
- Attend district council meetings to brief members on radiation safety of RBS
- Conduct on-site NIR measurement upon request by the public



Thank you