

TRAAC Paper No. 5/2013

Radiation Safety of Mobile Phone Radio Base Stations

Telecommunications Regulatory Affairs Advisory Committee 22 August 2013



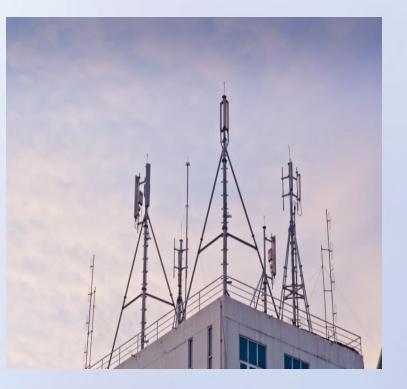
To brief Members about

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



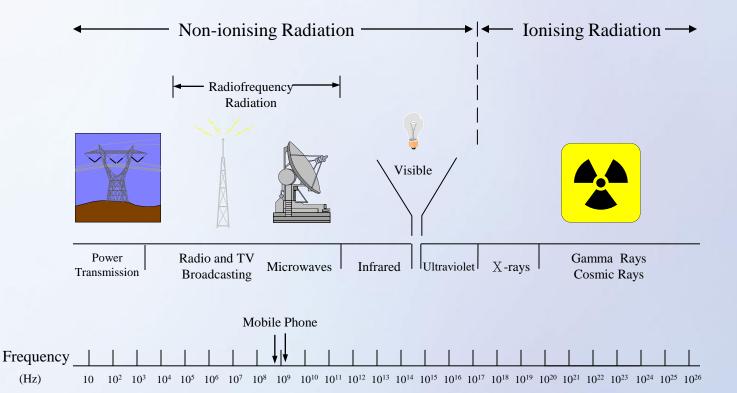
Mobile Phone RBS

- To provide an uninterrupted service, mobile network operators need to install mobile phone RBS on a territorywide 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 Nonionising 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	1800	Beyond 2000
	MHz	MHz	MHz
Time-varying fields	41.3 V/m	58.3 V/m	61.0 V/m



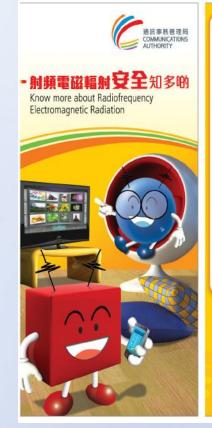
Regulation concerning Radiation Safety of RBS

- 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



無線電服務越來越普遍,大家可能經常使用手 提電話,又察覺到許多地方已加設了無線電裝 置。有朋友問:「這些裝置或者設備發出的幅 對對我們的健康曾造成損害嗎?」問得好!其 書手提電話和無線電裝置所發出的輻射屬於射 頻電磁輻射,我們在日常生活中也可能經常會 撥觸到它。就讓我們多給你一些資料吧。

More and more people are using wireless services these days. You may be using a mobile phone and have noticed more radio installations in various places, too. People ask: "Is exposure to the radiation generated by these devices or installations hazardous to health?" Now that's a smart question! Radiation generated from mobile phones and radio installations is radiofrequency electromagnetic radiation which we may come across very often in our daily lives. Here, we have prepared some more information for you.

齊齊加強電訊知識,做個精明用家! Stay Informed. Be a Smart Tele-Consumer!







Thank you