ITU Regional Workshop on EMF Harmony: Balancing Connectivity, Safety and Tower Location Selection in the Arab Region
13-16 May 2024, Muscat, Oman

Promoting evidence-based RF-EMF policies

Jack Rowley, PhD
GSMA

ITU-T SG5 Regional Group for the Arab Region

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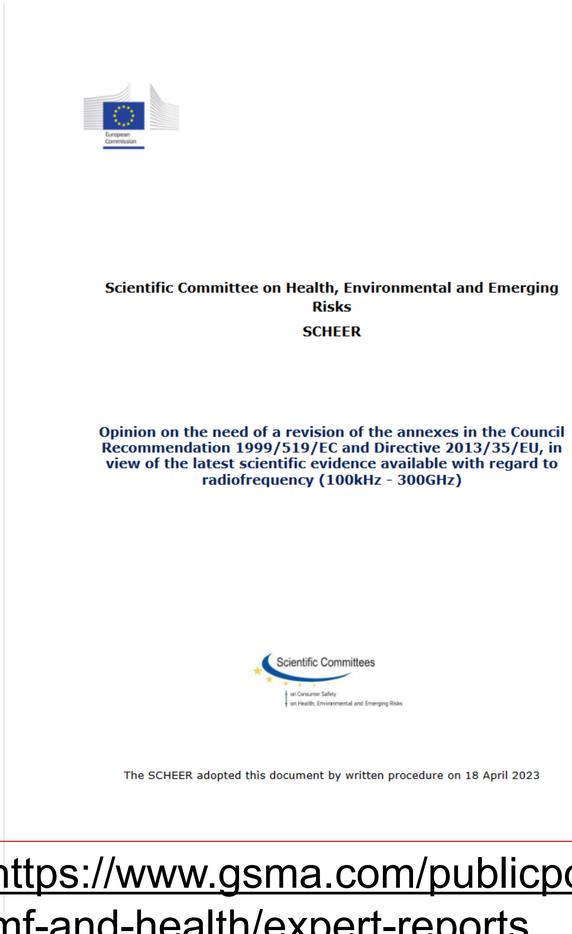
Independent expert reviews of radio waves



https://www.gsma.com/publicpolicy/emf-and-health/expert-reports

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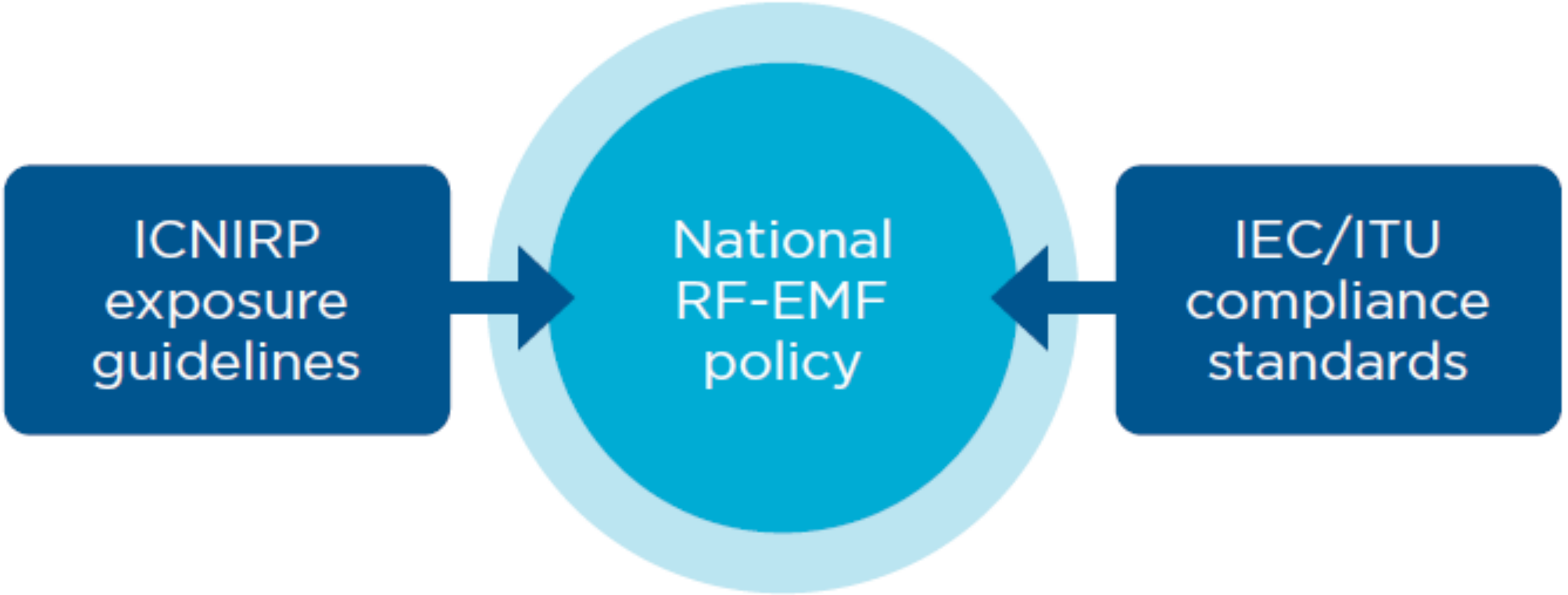
National RF-EMF Policy



ICNIRP (2020) explainer

Mobile networks

There are few changes of significance for mobile networks. However, the expanded frequency range for basic restrictions and new local exposure limits may have practical implications in some exposure situations.

Mobile devices

The values of the mobile devices the limits are unchanged below 6 GHz. The updated power density limits have direct applications for the assessment of mobile and portable devices operating at frequencies above 6 GHz.

https://www.gsma.com/publicpolicy/resources/emf-exposure-guidelines

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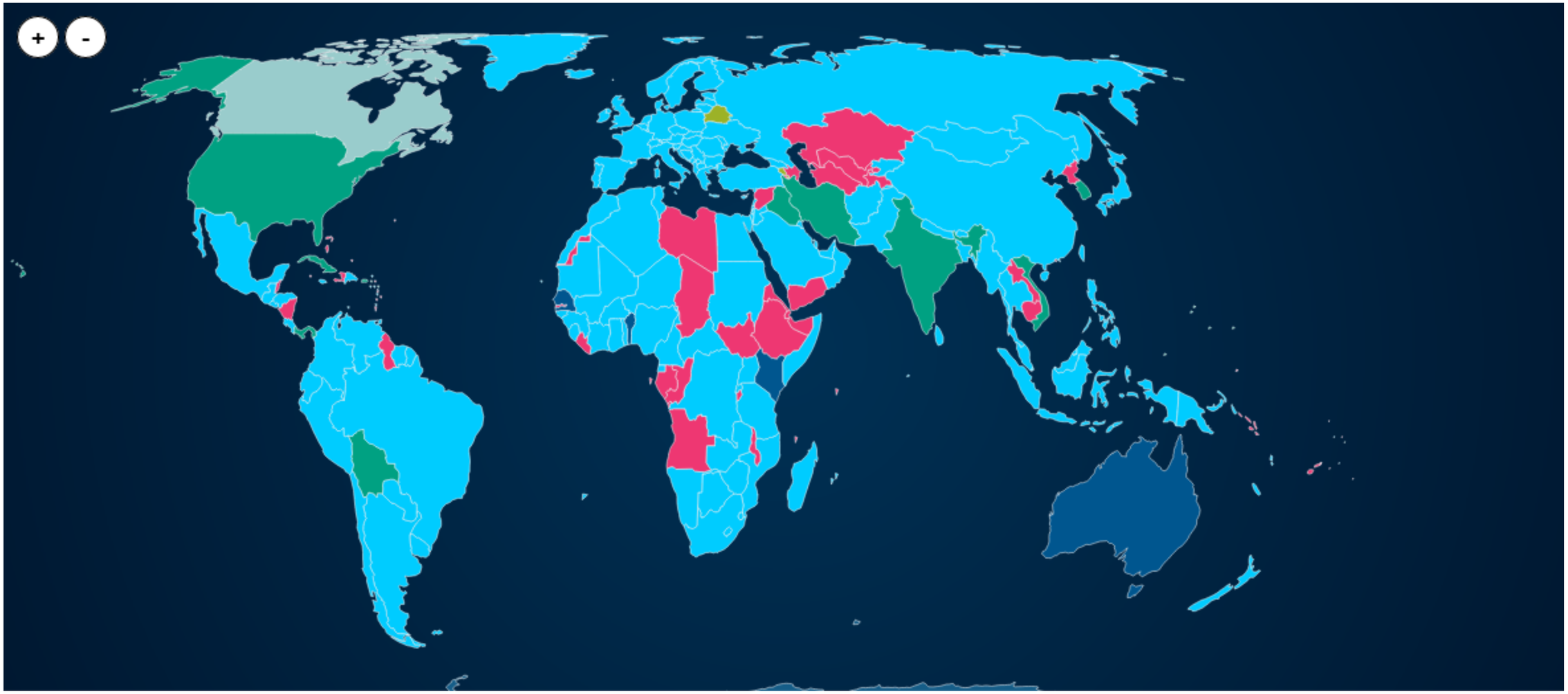
ICNIRP (2020) adoption – mobile devices (public)



https://www.gsma.com/publicpolicy/emf-and-health/emf-policy

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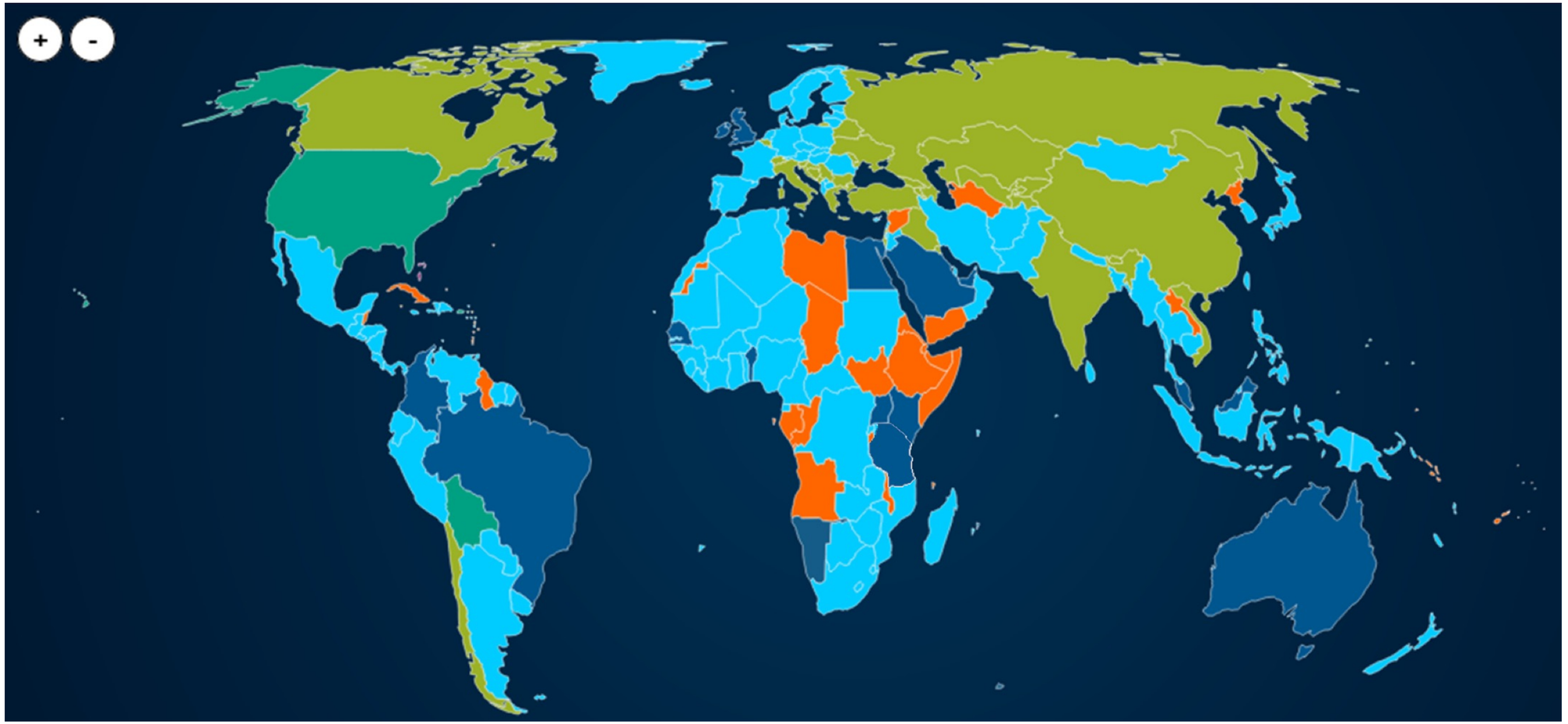
ICNIRP (2020) adoption – mobile networks (public)

2020 Ireland
Uganda

2021 Australia, Benin, Malaysia, Malta, Mauritius,
Saudi Arabia, United Arab Emirates, United Kingdom

2023 Colombia, Egypt,
Kenya, Tanzania

2024 Brazil
Trinidad and Tobago?



ICNIRP
ICNIRP 1998
FCC 1996
Other
Unknown

https://www.gsma.com/publicpolicy/emf-and-health/emf-policy

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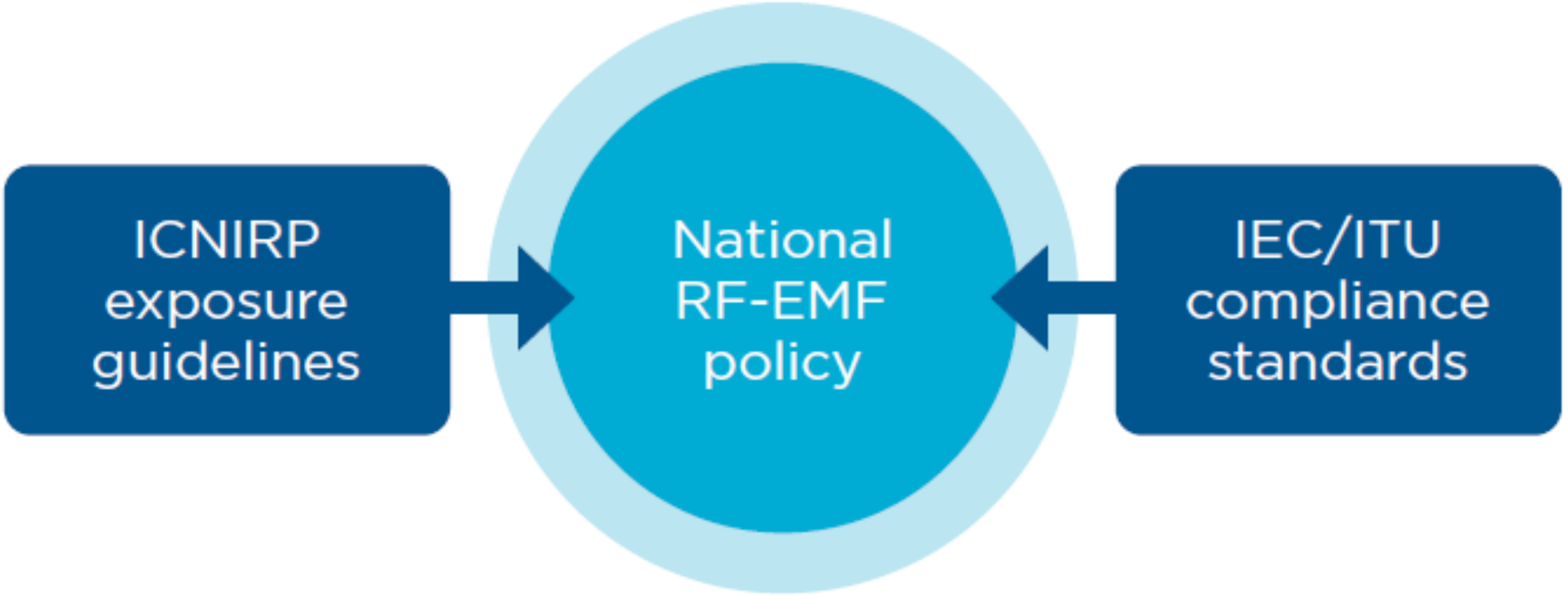
National RF-EMF Policy



Base stations complying with ICNIRP (1998) will comply with ICNIRP (2020)

frontiers in Communications and Networks

ORIGINAL RESEARCH
published: 04 March 2022
doi: 10.3389/frcmn.2022.744528

Check for updates

Implications of ICNIRP 2020 Exposure Guidelines on the RF EMF Compliance Boundary of Base Stations

*Davide Colombi *, Bo Xu, David Anguiano Sanjurjo, Paramananda Joshi, Fatemeh Ghasemifard, Carla Di Paola and Christer Törnevik*

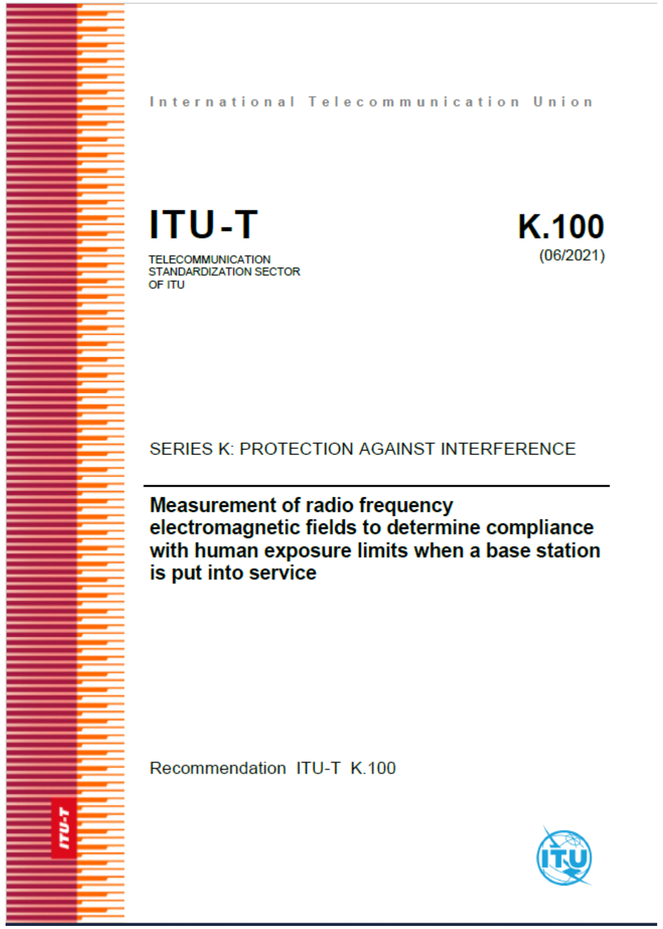
Ericsson Research, Ericsson AB, Stockholm, Sweden

Includes low-power small cells to macro cells, operating in frequency bands of relevance for 2G to 5G

Colombi et al. 2022

Update RF-EMF assessment methods

ITU-T K.100



International Telecommunication Union

ITU-T

TELECOMMUNICATION STANDARDIZATION SECTOR OF ITU

K.100

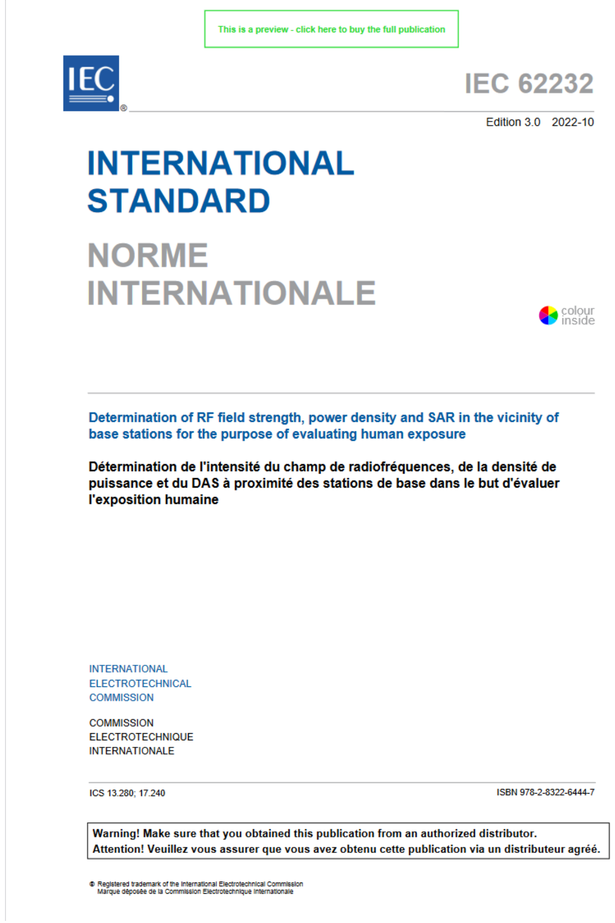
(06/2021)

SERIES K: PROTECTION AGAINST INTERFERENCE

Measurement of radio frequency electromagnetic fields to determine compliance with human exposure limits when a base station is put into service

Recommendation ITU-T K.100

IEC 62232



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IEC 62232

Edition 3.0 2022-10

INTERNATIONAL STANDARD

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colour inside

Determination of RF field strength, power density and SAR in the vicinity of base stations for the purpose of evaluating human exposure

Détermination de l'intensité du champ de radiofréquences, de la densité de puissance et du DAS à proximité des stations de base dans le but d'évaluer l'exposition humaine

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 13.280; 17.240

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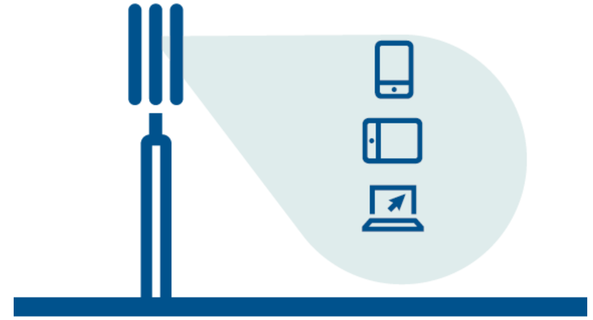
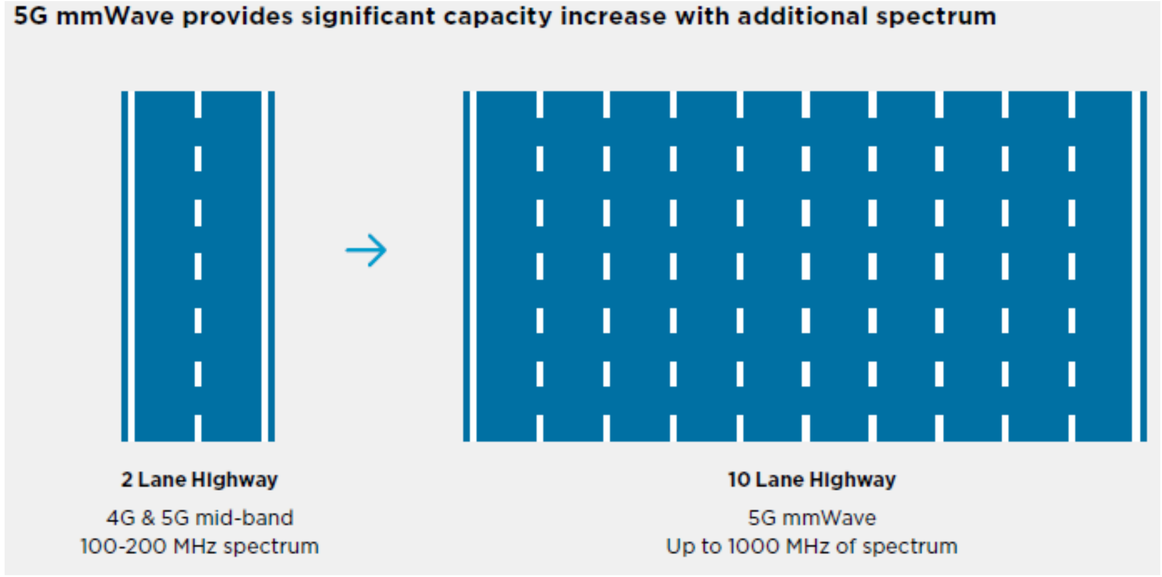
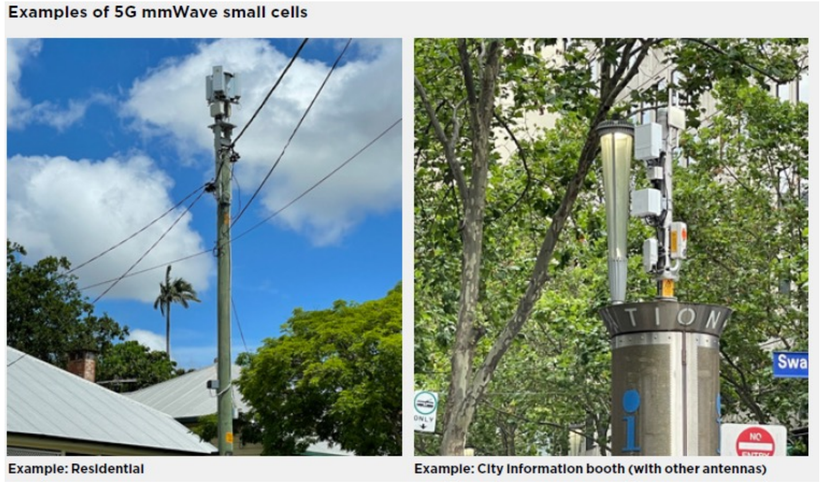
Conventional antennas

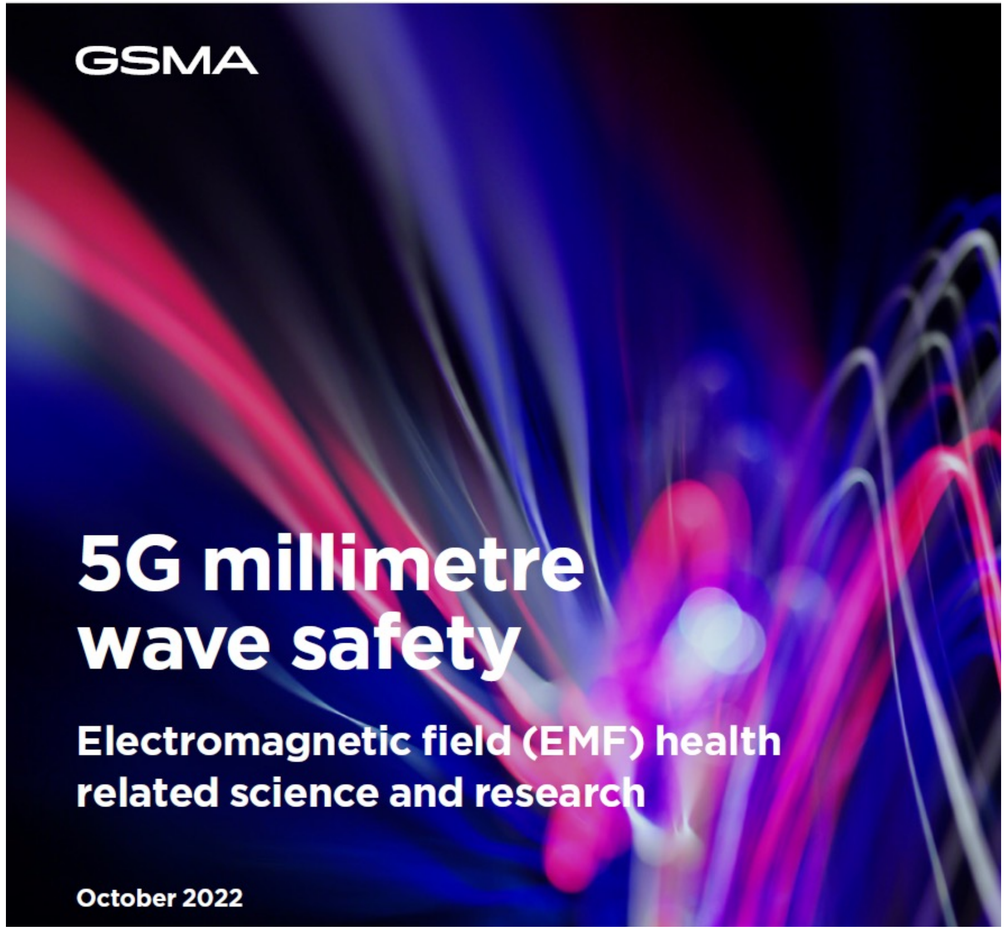


Active antennas

Use of millimetre waves for 5G







https://www.gsma.com/publicpolicy/resources/emf-safety-and-5g-mmwave-networks

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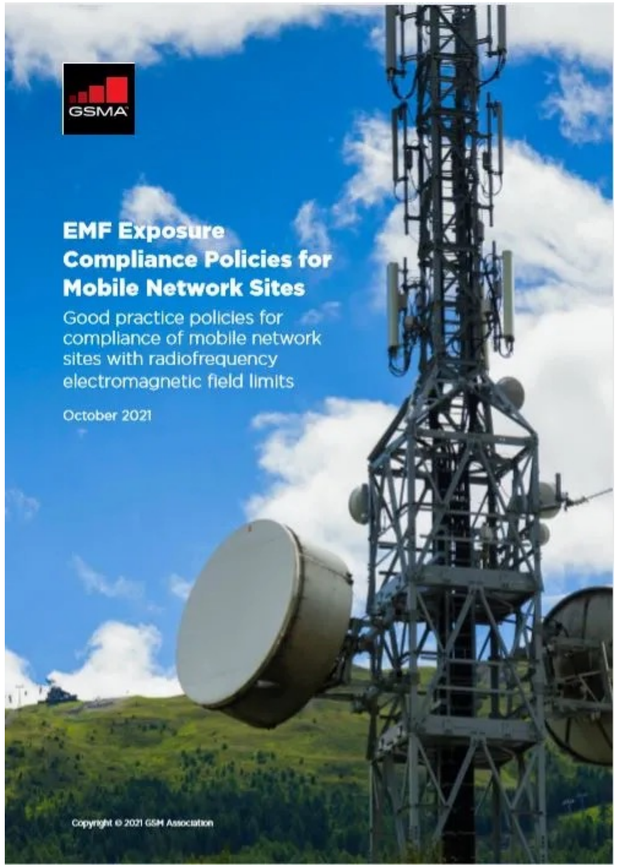
Good practice RF-EMF compliance policies

- Allow operator declaration of site RF-EMF compliance
- Assess site RF-EMF compliance through calculation
- Specify assessment uncertainty based on best practice
- Carry out appropriate post-installation measurements
- Reassess sites only when RF-EMF compliance changes
- Apply public or worker RF-EMF limits depending on access controls
- Define standardised site RF-EMF compliance assessment methods
- Agree compliance procedures for shared sites
- Adopt uniform small cell deployment rules
- Update assessment rules for active antennas
- Adopt efficient approaches to monitor compliance
- Practice effective communication of compliance information



https://www.gsma.com/publicpolicy/resources/emf-exposure-compliance-policies-for-mobile-network-sites

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Arbitrary planning exclusions should be avoided

Planning exclusion zones

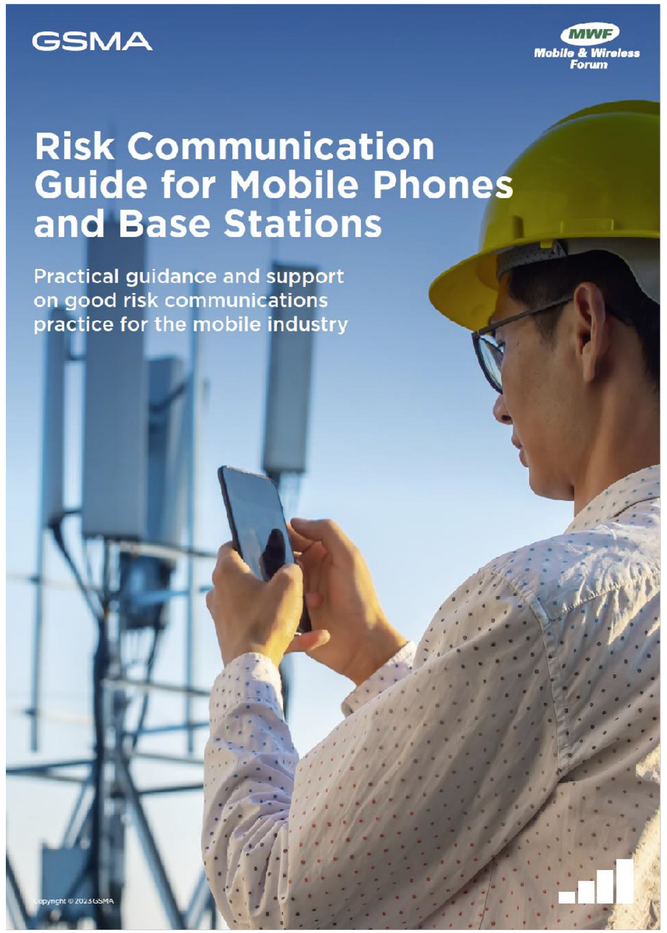
Figure 1: Illustrative diagram of a planning-based exclusion zone marked as circles around pre-schools (✎), schools (🏫), hospitals (✚) and emergency services facilities (🔥). Base station sites (△) within the exclusion zones would be in contravention of the policy.

*With respect to human exposure, currently there is **no technical requirements** for any special consideration for locating BSs close to areas such as hospitals and schools due to the fact that existing exposure guidelines incorporate in the exposure limits safety margins that are applicable to all locations.*
- ITU-T K.91, 2024

Risk Communication guidance

Provides practical guidance and support on best practice

- Ten pointers for effective communication
- Updated graphics explaining the application to RF-EMF of the International Agency for Research on Cancer (IARC) hazard assessment process
- Expanded guidance on responding to social media



https://www.gsma.com/publicpolicy/resources/risk-communication-guide-mobile-phones-base-stations

GSMA information on EMF and health

www.gsma.com/emf

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The 13th GSMA EMF Forum 2024

https://www.gsma.com/publicpolicy/gsma_events/

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Thank You

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