



MINISTRY OF HEALTH MALAYSIA

## COUNTRY REPORT ON EMF IN MALAYSIA 2025 INTERNATIONAL ADVISORY COMMITTEE (IAC) MEETING ON NON-IONIZING RADIATION

In Malaysia, there remains a great concern regarding the health effects caused by non-ionising radiation (NIR) among the public. Hence, the local authorities such as Ministry of Health (MOH), Malaysian Communication and Multimedia Commission (MCMC), Malaysia Nuclear Agency (MNA) and other relevant agencies as well as local universities have been engaged in continuous cooperation to ensure that the public has the current and reliable information on NIR.

Below are the brief reports on NIR activities that had been carried out in Malaysia throughout the year of 2024:

NO.	ACTIVITIES
1.	<p><b>General research activities related to EMF and health</b></p> <ul style="list-style-type: none"><li>i. MNA conducted various research in NIR field namely:<ul style="list-style-type: none"><li>a) Study on the Irradiance Level of Ultraviolet (UV) Radiation from Environment;</li><li>b) 24 Hours Monitoring of Radiofrequency Electromagnetic Fields (RF-EMF) in the Environment for Radiation Safety Assessment.</li></ul></li> <li>ii. Several collaborations on research were conducted by MNA. These include:<ul style="list-style-type: none"><li>a) Occupational Measurement: On-Site Near Field Measurement around Malaysia;</li><li>b) Radio Frequency Electromagnetic Fields (RF EMF) Measurement for Public Emission Limit;</li><li>c) Study on the Biological Impact of Exposure to 5G RF-EMF.</li></ul></li> <li>iii. The MCMC has started a research initiative to study the potential biological effects of exposure to 5G RF-EMF. This study aims to provide robust scientific data to support informed decision-making on matters of public safety concerning the nationwide deployment of 5G networks. This initiative reflects MCMC's continued commitment to addressing public concerns with transparency and scientific rigour. It also underscores the Commission's role in ensuring that the advancement of digital infrastructure in Malaysia proceeds in a manner that is both safe and sustainable.</li> <li>iv. WCC, UTM is actively conducting the following research:<ul style="list-style-type: none"><li>a) Study on The Biological Impact of Exposure to 5G RF-EMF;</li><li>b) Mathematical Modelling of Millimetrewave Electromagnetic Field Exposure;</li><li>c) Characterization of Electromagnetic Field Radiation Effect Due to Multiple-Input Multiple-Output Implementation in Sub-6 GHz Fifth Generation and Beyond Fifth Generation Applications;</li><li>d) Research on 2G to 4G RF-EMF public exposure level;</li><li>e) Research on 5G RF-EMF public exposure level;</li><li>f) RF-EMF Radiation Level Measurement and Monitoring for Smart Metering infrastructure;</li><li>g) Compliance Testing at Specific Absorption Rate Laboratory.</li></ul></li></ul>



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	<p>v. USM Medical Centre Bertam (PPUSMB) also has conducted the related research on EMF.</p>
<p>2.</p>	<p><b>New relevant policies and legislations</b></p> <p>i. MOH is working with representatives from various agencies, organizations, and universities in developing new guidelines on MRI safety for medical practice. This guideline includes all the key areas that are important for the delivery of high-quality and effective MR imaging examinations and services.</p> <p>ii. MNA is working with Malaysia Technical Standard Forum Berhad (MTFSB), MCMC and telecommunication and broadcasting Industry in document development and review:</p> <p>a) Technical Code for radiofrequency radiation measurement and simulation for radio communication Infrastructure.</p> <p>b) Technical Code for radiofrequency radiation measurement and simulation for broadcasting facility.</p> <p>iii. MCMC has undertaken continuous efforts to monitor EMF levels in public areas throughout the country. These measurements are conducted to ensure compliance with the exposure limits set by the International Commission on Non-Ionizing Radiation Protection (ICNIRP), in support of MCMC's mandate to safeguard public safety. In late 2024, MCMC commenced a new phase of nationwide EMF assessments. This latest initiative involves a combination of drive tests and spot measurements across twenty (20) urban and suburban areas throughout the country. The initiative is designed to provide updated data on EMF exposure levels in various environments.</p> <p>MCMC also ensure service providers' adherence to the Mandatory Standard for Electromagnetic Field Emission (MS EMF), which applies to all service providers operating radiocommunication infrastructure. In October 2024, compliance assessments were conducted involving over 1,044 pilot sites. Notices were issued for identified non-compliance, requiring remedial action and compliance plans. Upon review, all sites were confirmed to comply with the MS EMF requirements, reaffirming MCMC's role in safeguarding public safety and supporting the safe development of telecommunications infrastructure.</p> <p>iv. WCC, UTM is working together with various agencies (e.g., spectrum regulator, industry guideline and telcos) on the compliance toward industry guidelines, technical codes and policies related to the management of RF-EMF emission from telecommunication infrastructure in the country. The agencies that have been working closely with them are:</p> <p>a) IAWC - standardizing activities in dealing with issues related to NIR, especially from the health aspect.</p>



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	<ul style="list-style-type: none"> <li>b) Sub-Working Committee for RF-EMF - provide the IAWC on any review/new development of guidelines/documents and activity/research related to NIR on specific field.</li> <li>c) MTSFB EMF Sub-Working Group – leading industry stakeholders in drafting the revision of Technical Code MCMC-MTSFB TC G032:2021 on EMF compliance.</li> </ul>
3.	<p><b>Area of public concern and national response</b></p> <ul style="list-style-type: none"> <li>i. MNA has involved in various programme including innovation, exhibition and public awareness programme as follows: <ul style="list-style-type: none"> <li>a) Awareness Talk on RF-EMF from Telco Tower and Demonstration Session on Measurement of RF-EMF at Dewan Bandaraya Kuala Lumpur (DBKL), Kuala Lumpur; 3 January 2024</li> <li>b) Public Awareness on RF-EMF: EMF Radiation from Radio Communication Infrastructure (RCI) to Public and Demonstration Session on Measurement of RF-EMF at Selayang, Selangor; 8 March 2024</li> <li>c) Visit from Royal Malaysian Air Force to NIR Facilities, MNA; 2 May 2024</li> <li>d) Briefing Session on RF-EMF Radiation from Radio Communication Infrastructure (RCI) at Ipoh, Perak, 26 June 2024</li> <li>e) Visit from Politeknik Sultan Salahuddin Abdul Aziz Shah, Shah Alam to NIR Facilities, MNA; 21 August 2024</li> <li>f) RF EMF Exhibition at Safety PLUS Day, Subang Jaya, 19 November 2024</li> <li>g) Engagement Session for Information on RF EMF from telecommunication structure, 2024, Sarawak Multimedia Authority (SMA)</li> </ul> </li> <li>ii. introduction of RF-EMF based smart meter infrastructure and the RF-EMF network in residential areas has raised some concerns from the public regarding its potential health risk. Therefore, WCC, UTM in collaboration with one of the major utility companies in Malaysia, is conducting a public awareness program which include, but not limited to, townhall, seminar, one-to-one engagement and educational printed material. The main objective is to debunk the myths circulating in social media regarding the health impacts of RF-EMF based smart metering infrastructures.</li> </ul>
4.	<p><b>New public Information activities</b></p> <ul style="list-style-type: none"> <li>i. MNA in collaboration with MOH, MCMC, local authority bodies and local universities is organising the International Conference on Non-Ionising Radiation (ICNIR 2025) on 9-10 July 2025. This conference discusses the benefits and risks of NIR that create concerns and confusions amongst the public and civil society group.</li> <li>ii. The list of training, seminar and webinar conducted by MNA are: <ul style="list-style-type: none"> <li>a) Laser safety awareness on 28 February, 5 Mac, 18 Mac, 30 April, 27 May, 11 June and 9 July 2024.</li> </ul> </li> </ul>



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	<p>b) Laser safety for officer on 18-22 March, 27-31 May, 4-5 &amp; 9-10 September and 9-13 September 2024.</p> <p>c) Course on Certification of Competency for RF-EMF Compliance Assessor on 22-26 April 2024.</p> <p>d) Electromagnetic Field (EMF) Expert Talk: Technology Advancement and Reconciling Public Concern on 16th May 2024</p> <p>iii. Besides training and webinar, MNA also conducted consultancy services in various NIR fields such as UV radiation and RF radiation. The consultancy services were based on the testing they conducted and a technical report for the client will be provided by MNA.</p> <p>iv. To further strengthen institutional capacity and reinforce stakeholder engagement, MCMC has conducted two (2) training sessions focused on the management of awareness and public complaints related to RF-EMF. These sessions were held for officers from MCMC's state offices, aimed at providing them with the knowledge and skills needed to handle public concerns on RF-EMF exposure effectively and professionally.</p> <p>v. WCC, UTM provides publicly accessible information through their website regarding the RF-EMF measurement facilities that are being used by industry to measure RF-EMF emission level from telecommunication infrastructures as well as updates of various industry and public training courses/seminars/talks conducted by WCC, UTM on various topics including RF-EMF Emission and Health Concerns. The website's links are as follows:</p> <p>a) WCC, UTM's specific absorption rate (SAR) laboratory <a href="https://wcc.utm.my/specific-absorption-rate-sar-laboratory/">https://wcc.utm.my/specific-absorption-rate-sar-laboratory/</a></p> <p>b) WCC, UTM's RF-EMF laboratory <a href="https://wcc.utm.my/rfemf-laboratory/">https://wcc.utm.my/rfemf-laboratory/</a></p> <p>c) WCC, UTM's training on RF-EMF emission and health concerns <a href="https://wcc.utm.my/training/">https://wcc.utm.my/training/</a></p>

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