

Title: Wireless industry emission: electromagnetic field monitoring and analysis

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Abstract: This study is prepared by the Wireless Communication Centre (WCC) Universiti Teknologi Malaysia (UTM) as collaboration with the Malaysian Communication and Multimedia Commission (MCMC) from Northern, Central and Southern regions to study the non-ionizing radiation (NIR) emission to public. This study aims to investigate the EMF pattern and its bio-effect to human kind. The installations of mobile base stations among residential areas have raised widespread concerns about the possibility on radio frequency (RF) exposure to human being. The rapid growth of mobile telecommunication technologies which subscription estimated about 9.3 billion by 2019 will affect each person in the world. The proposed study aims to evaluate the communication science, radio frequency technologies and recommend some solutions to fill any gaps in knowledge of electromagnetic field (EMF). In addition, five EMF area monitoring systems will be placed nearby mobile base stations to record the radiating sources in real time for a year period. The methodology frame work covers the investigation of emission from FM radio, analogue TV broadcasting, WiMAX, 2G, 3G and 4G mobile base stations 24 hours every day. This study has given the opportunity to identify the most sensitive systems of human body. Biological reaction of human body are obligatory taken into account, when assessing the risk of EMF effects to body tissues to develop standards of the electromagnetic safety.