

UNIVERSITI TEKNOLOGI MARA

ELECTROMAGNETIC FIELD (EMF) AND
RADIO FREQUENCY (RF) RADIATION
ASSESSMENT ON TELECOMMUNICATION
TOWER AND SATELLITE GROUND STATION
AT THE NATIONAL PLANETARIUM OF THE
NATIONAL SPACE AGENCY OF MALAYSIA

MOHAMAD HAMKA BIN MUSLIM

MSc

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ABSTRACT

The research is done as a result of anxieties raised by staff and workers working in the range of potentially health hazardous area affected from the Radio Frequency (RF) radiation Electromagnetic Field (EMF) emitted by the Telecommunication Tower and Satellite Ground Station at the National Planetarium of the National Space Agency of Malaysia. The measurement carried out on the 26th November until 5th December of 2014 to detect the electric field and magnetic field strength and the power density at identified locations around the anxious area using Narda Safety Test Solutions NBM 550 and PMM 8053 equipment. The measured radiations were assessed and evaluated against the exposure limits as stated in the Malaysian Communications and Multimedia Commission (MCMC) Mandatory Standard. The averaged broad band radiation levels (100kHz – 6GHz) measured over six minutes were found to fluctuate between 0.005 $\mu\text{Watts/cm}^2$ to 0.696 $\mu\text{Watts/cm}^2$ (0.08V/m to 1.65V/m) of which the highest level that corresponds to about 0.06% lower than the MCMC exposure limit for public. The results indicate that the high radiation levels present at all measured locations of the area were very low and sufficiently in compliance with the current exposure limit within the MCMC Mandatory Standard for workers and members of the general public.

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