

4G TECHNOLOGIES & EFFECTS ON CHILDREN



In response to public concerns, Universiti Malaysia Perlis carried out a study on the effect of 4G LTE frequency emitted from base stations on children.

This study was driven by data claiming a dramatic increase in use of mobile devices by young children. Currently, there are minimal researches on this subject globally.

The research respondents constituted of 63 children. During the research, they were exposed to a series of counterbalanced, randomised, single-blind conditions which mimicked emissions from base stations. Subjects were measured in the areas of:

- cognitive performances;
- health; and
- well-being



This research on short-term exposure to radiation emitted by 4G LTE base station antenna signals has no significant effects to children in the areas of:

- EMF perception;
- cognitive performance;
- well-being;
- EEG; and
- physiological parameters (body temperature, blood pressure, and heart rate)

These findings were coherent with similar peer-reviewed studies carried out globally.



EMF & EHS

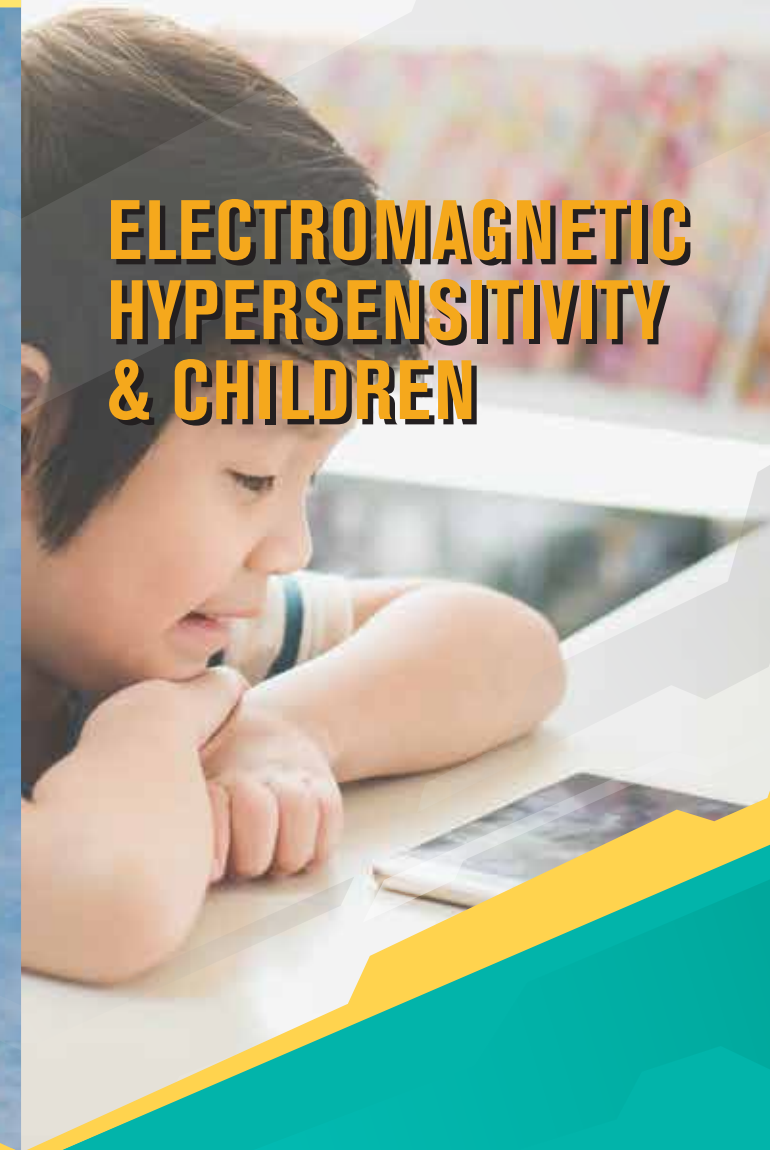


Mobile base stations and mobile phones create electromagnetic fields (EMF) in the course of their operations. These EMF fall into the category of non-ionising, low-level, harmless radiation.

Electromagnetic Hypersensitivity (EHS) is not a recognised medical diagnosis. There is no scientific basis to link its symptoms to EMF exposure. However, individuals claiming to acquire EHS experience various non-specific symptoms such as headaches, fatigue and dizziness which may appear real.

While studies thus far conclude that EMF exposure within set limits is safe for everyone, authorities and scientists will continue to carry out research on the safety of EMF.

ELECTROMAGNETIC HYPERSENSITIVITY & CHILDREN



EFFECTS OF SHORT-TERM 4G LTE BASE STATION SIGNAL EXPOSURE ON COGNITIVE PERFORMANCE, HEALTH AND WELL-BEING OF MALAYSIAN CHILDREN

For more information, visit

rfemf.mcmc.gov.my



THE TEST

TEST SETUP

Exposure to 4G LTE-like signals (850, 1800, or 2600 MHz) plus one sham signal (no signal) for intervals of at least one week in a shielded room in UNIMAP.

PRE EXPOSURE

Registration, interview, informed consent, demographic information, physiological parameters test, cognitive test training, well-being (WB) test and electromagnetic field (EMF) perception test.

EXPOSURE

Electroencephalography (EEG)/brain wave test, physiological parameters test, cognitive performance (CP) test, well-being (WB) test and electromagnetic field (EMF) perception test.

POST EXPOSURE

Blood pressure test, heart rate test, body temperature, well-being (WB) test and electromagnetic field (EMF) perception test.



TEST SUBJECTS

63 CHILDREN RECRUITED

31 ELECTROMAGNETIC HYPERSENSITIVE
32 NORMAL

CONCLUSION

The current findings from this research work concluded that there were no significant effects of short-term radiation exposure emitted from the 4G LTE base station antenna signals on Malaysian children with regards to EMF perception, cognitive performance, health and well-being.

THE RESULT

EMF PERCEPTION

Only 1 out of 63 normal and sensitive subjects was able to sense accurately if there was a signal. Hence, to conclude, sensitive children could not detect signals.

COGNITIVE PERFORMANCE

Cognitive performance functions such as working memory and attention of children for both groups were not affected by any signals.

EEG READINGS

EEG readings showed emissions from base stations antenna had no influence on the well-being of the children. No differences were shown between EHS children and normal children.

PHYSIOLOGICAL PARAMETERS

Physiological parameters such as body temperature, blood pressure and heart rates for normal and sensitive subjects remained unchanged (constant) after exposure to all signals.