RESPONSE TO FCC REQUEST FOR COMMENT

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INTRODUCTION

This is a response to the request for comments to refresh the record, as required by the panel's remand for the Commission "to provide a reasoned explanation for its determination that its guidelines adequately protect against harmful effects of exposure to radiofrequency radiation unrelated to cancer," specifically directing the targeted issue of (2) "the impacts of RF radiation on children, the health implications of long-term exposure to RF radiation … since the Commission last updated its guidelines", directing the Commission to provide further explanation to justify its findings.

THE IMPACTS OF RF RADIATION ON CHILDREN

The study [Bevington, Children's Sensitivity, 2026] highlights three factors rendering children more sensitive to RF radiation than adults. Firstly, children's greater permittivity with higher bodily water content increases non-thermal effects, along with differences in relative body and skull size raising non-thermal EMF penetration. Secondly, the fact that human myelin is not fully developed from conception until after the age of 20 years leads to deleterious effects from EMF exposures during the first 20 years of life. Thirdly, some 10 % of children are likely hypersensitive to EMFs including RF radiation according to the prevalence of this condition in the adult general population in Australia, Canada and the United States [McCredden et al 2026].

These three factors, along with the possibility or likelihood of high RF radiation exposure throughout their lives, mean that children require non-thermal limits for RF radiation, since there is no evidence that these three factors are dependent on only thermal effects or that their adverse physiological responses are psychological [Belpomme et al 2021]. They also mean that children require lower thermal limits than healthy adults, since their permittivity is higher, their myelin is undeveloped, and most children are not screened for whether they are hypersensitive to EMFs including RF radiation.

THE HEALTH IMPLICATIONS OF LONG-TERM EXPOSURE TO RF RADIATION

The study [Bevington, Human Sensitivity, 2026] highlights the wide-ranging health implications now evident from long-term exposure to RF radiation, including the development of hypersensitivity to EMFs including RF radiation. In particular, it provides names given to electromagnetic hypersensitivity since it was first recognised in the scientific literature in 1746. It illustrates the numerous ways in which reliable diagnosis can be achieved. It identifies the proportion of the general population which is hyper- or hypo- sensitive to EMFs including RF radiation. It lists the typical specific symptoms from this sensitivity for which the disabling health consequences include loss of employment, loss of equality of access to society, and often loss of family life.

Pulsed RF radiation devices include magnetic fields and all living cells are sensitive to magnetic fields, explaining many of the symptoms caused by EMFs [Henshaw et al 2025]. Some people and children are genetically hypersensitive to EMF [de Luca et al 2014]. Hypersensitivity to EMFs sometimes runs across generations of families.

RECOMMENDATIONS

These impacts of RF radiation on children and the health implications of long-term exposure to RF radiation require non-thermal limits to ensure established human rights and equality of access to employment and social opportunity. Current thermal limits do not protect all people [ICBE-EMF 2022]. Non-thermal levels have been adopted since 1935 and were advised by the ICNIRP in 2002 for individual governments to implement in their General Approach. The possible use of protection and shielding or other accommodations in areas with high levels of RF exposure, which is often expensive and difficult to achieve practically, does not provide full equality of access for people disabled by the health effects of current high levels of RF radiation.

For those who are hypersensitive to RF, a level of 0.005 V/m, which includes a safety margin of ten times, has been suggested [Bevington 2024], based on current evidence. Cell phones can receive signals at similar power levels.

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