



Date

Reference

Department

Your date

Your reference

Regarding California SB 649

17 September 2017

We hereby request that Governor Brown veto this bill.

We have for about two decades studied human health risks from exposure to radiofrequency (RF) radiation. One of us (LH) was part of the International Agency for Research on Cancer (IARC) expert panel that evaluated cancer risks from RF radiation in May 2011. The conclusion by this WHO organization was that RF radiation is a possible human carcinogen, Group 2B.

Since then the evidence of cancer risks has increased and RF radiation should now be regarded as a human carcinogen, Group 1, according to the IARC classification.

Recently we published a new evaluation of the carcinogenic risk using the so called Bradford Hill viewpoints on association or causation. These points were used on the height of the controversy on smoking and lung cancer. In our publication we concluded that based on published studies RF radiation is carcinogenic to humans: *Carlberg M, Hardell L. Evaluation of mobile phone and cordless phone use and glioma risk using the Bradford Hill viewpoints from 1965 on association or causation. Biomed. Res. Int. 2017;2017:9218486. Doi:10.1155/2017/9218486.*


Unfortunately it seems as if WHO (not including IARC) bases its conclusions of RF radiation and carcinogenesis on International Commission on Non-Ionizing Radiation Protection (ICNIRP), an industry loyal non-governmental organization (NGO). An evaluation of these circumstances was recently published in a scientific journal published after peer review: *Hardell L. World Health Organization, radio frequency radiation and health – a hard nut to crack. Int. J. Oncol. 2017;51:405-413.*

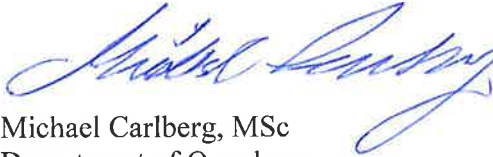
The environment is now filled with non-recognizable RF radiation. As modern mobile telephony and data networking provide services at several different bands, there are different frequencies which also require band specific antennas, therefore multiplying the number of antennas and RF radiation exposure. We measured ambient RF radiation in Stockholm, Sweden and have published results for the Central Station and the Old Town identifying some hot spots of radiation. In general most of the RF radiation levels were above what has shown to have biological effects: *Hardell L, Koppel T, Carlberg M, Ahonen M, Hedendahl L. Radiofrequency radiation at Stockholm Central Railway Station in Sweden and some medical aspects on public exposure to RF fields. Int. J. Oncol. 2016;49:1315-1324. Hardell L, Carlberg M, Koppel t, Hedendahl L. High radiofrequency radiation at Stockholm Old Town: An exposimeter study including the Royal Castel, Supreme Court, three major squares and the Swedish Parliament. Mol J Clin Oncol. 2017;4:462-476*

The fifth generation (5G) for telecommunication is now planned to be rolled out. This is being done without evaluation of potential health hazards for humans and adverse health effects on the environment. This will substantially increase ambient RF radiation already shown in many places to exceed guidelines based on non-thermal biological effects (not based on heating effects as used by ICNIRP for their guidelines). For that reason more than 180 scientists and doctors signed an Appeal, sent to the EU on September 13, 2017, to stop the roll-out of 5G until potential harmful effects on humans and the environment are investigated by independent scientists. We urge that the same principle be used to stop SB 649. We strongly urge the Governor to veto this bill.

Note: This letter is personal based on own long-term research and knowledge in this area
No conflicts of interest. Pro bono publico.

Respectfully submitted


Lennart Hardell, MD, PhD
Department of Oncology,
Faculty of Medicine
University Hospital,
SE 701 85 Orebro, Sweden
lennart.hardell@regionorebrolan.se


Michael Carlberg, MSc
Department of Oncology,
Faculty of Medicine
University Hospital,
SE 701 85 Orebro, Sweden
michael.carlberg@regionorebrolan.se