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March \_\_, 2025

*[Submitted Electronically]*

Division of Dockets Management  
U.S. Food and Drug Administration  
5630 Fishers Lane, Room 1061  
Rockville, MD 20852

Citizen Petition and Request for  
Immediate Public Health Advisory

**Children's Exposure to Unnecessary Radiation in Schools**

Pursuant to 21 C.F.R. §§ 10.20, 10.30 (Citizen Petitions) and further to our prior Petition (Docket FDA-2023-P-2115) and the Letter of Denial from the Director of the Office of Policy at the Center for Devices and Radiological Health dated September 14, 2024, (attached hereto as Appendix C), petitioner Americans for Responsible Technology and additional petitioners listed in Appendix A hereof (collectively, Petitioners) hereby respectfully submit this Citizen Petition requesting that the Commissioner of the Food and Drug Administration (FDA) immediately issue, implement, and carry out a Public Health Advisory to all public and private schools in the United States regarding the potential exposure of children to unnecessary amounts of radiofrequency (RF) radiation in school classrooms. The requested action is consistent with, and required by, 21 USC Federal Food, Drug and Cosmetic Act, Subchapter V, Part C Electronic Product Radiation Control, Section 360ii - Program of Control, regarding public exposure to non-ionizing radiation.

## STATEMENT OF GROUNDS

Petitioners are non-profit organizations and parents of children in public and private schools concerned with the human health risks associated with near-constant exposure of children to excess or unnecessary levels of RF radiation.

## THE ISSUE

It is widely accepted that children are uniquely vulnerable to environmental threats of all kinds,<sup>1</sup> including radiation in all its forms.<sup>2</sup> Their rapidly developing physiology, their immature detoxification and elimination systems, and their behavioral patterns magnify any risks that may be present. Over the past several decades, numerous state and federal safety standards have been developed and implemented in recognition of this unique demographic.<sup>3</sup>

More recently, there has been a sea change in our educational system. The deployment of wireless technology is now ubiquitous in America's school classrooms.<sup>4</sup> The exposure from multiple wireless devices is nearly constant and has whole-body effects on a uniquely vulnerable population. Wireless routers and access points in particular, which can account for 90% or more of the radiation in a classroom,<sup>5</sup> are factory set for maximum radiated power and operate all day long, emitting radiation throughout the classroom. Despite the existence of this potentially hazardous exposure, there are no requirements for any measurement, evaluation, or remediation of excessive or unnecessary levels of radiation, putting children at risk.

After all, school is a child's second home - a place where they spend up to eight hours every day, day after day, week after week, for up to twelve years. However, unlike an adult's work environment where the Occupational Safety and Health Administration has jurisdiction and responsibility for ensuring a safe workplace, schools lack a single authority with broad

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<sup>1</sup> "Understanding Exposures in Children's Environments | US EPA." US EPA, 11 July 2024, [www.epa.gov/healthresearch/understanding-exposures-childrens-environments](https://www.epa.gov/healthresearch/understanding-exposures-childrens-environments).

<sup>2</sup> Moon, Jin-Hwa. "Health Effects of Electromagnetic Fields on Children." *Clinical and Experimental Pediatrics*, vol. 63, no. 11, May 2020, pp. 422–28. <https://doi.org/10.3345/cep.2019.01494>.

<sup>3</sup> *Inter alia*, <https://www.nysed.gov/student-support-services/school-health-laws-and-regulations>

<sup>4</sup> "95 Percent of Public-School Classrooms Have Wi-Fi." *Government Technology*, 18 Dec. 2023

<sup>5</sup> Radio Frequency Radiation Assessment Test, Linbrook School, Oakville, ON L6J 2L2, accessed at [https://www.techsafeschools.org/\\_files/ugd/2cea04\\_2f026547f5fd4702a0b6fe09934a9eed.pdf](https://www.techsafeschools.org/_files/ugd/2cea04_2f026547f5fd4702a0b6fe09934a9eed.pdf)

oversight, instead relying on a patchwork of local, state, and federal agencies to identify potential risks and recommend remedial action. In this case, since the FDA has identified itself as having the authority and responsibility to oversee the safety and performance of electronic devices,<sup>6</sup> it falls to the FDA to protect this vulnerable population by complying with applicable federal laws which require the agency to take action.

## **THE DEVICES**

Wireless routers and access points in schools are used to connect children with each other, with their teachers, with the internet, and with the programs they use for instruction and review. Tablets, laptop computers, printers, projectors, smartboards and other classroom devices all connect to each other through routers and wireless access points.

All commercial routers and access points are delivered from the manufacturer pre-set for maximum power. Reducing the radiation emitted by these devices requires a manual adjustment of the output level, which is accomplished by accessing the software controlling the device. Absent complaints about interference with other devices, or any requirement for testing or evaluation to determine exactly how much power is required for the proper operation of the equipment, most routers and access points remain in full power mode, emitting far greater radiation than is actually required for the accomplishment of the product's primary purpose.<sup>7</sup>

In denying our previous request for the FDA to comply with the law regarding Sections (a)(2), (a)(4) and (a)(5) of 21 USC 360ii, the agency claims it only has responsibility to protect the public from "unnecessary" radiation, which the agency defines in several ways, including "the minimal amount of radiation that is reasonably required for the accomplishment of a product's primary purpose."

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<sup>6</sup> Center for Devices and Radiological Health. "Electronic Product Radiation Control Program." U.S. Food And Drug Administration, 23 Feb. 2023, [www.fda.gov/radiation-emitting-products/electronic-product-radiation-control-program](http://www.fda.gov/radiation-emitting-products/electronic-product-radiation-control-program).

<sup>7</sup> An analysis of RF radiation in the Linbrook School in Oakville, Ontario revealed that the radiation in classrooms could be reduced by as much as 90% while still retaining full functionality. See Appendix B.

The excess or unnecessary radiation emitted from a classroom router or access point operating as designed is not a "defect" as defined in 21 CFR 1003.2, and no such claim is made here. Manufacturers of these devices cannot remedy a situation in which the device emits more radiation than is required for the task at hand. The only remedy is for school administrators, IT staff, or other qualified personnel to manually adjust the amount of radiation emitted from the device so as not to create excessive and unnecessary radiation in the classroom.

Likewise, current human exposure standards for RF radiation should not be applied in this case. Back in the last century, the Federal Communications Commission developed and promoted public exposure standards for electronic devices emitting radiation to protect the public from the harm that was understood to result from excess or unnecessary exposure. These standards, based on adult models and developed long before the introduction of wireless technologies into school classrooms, bear no relationship to a child's exposure in school, and should not be used to excuse or justify the exposure of any child to any level of unnecessary radiation.

### **SPECIFIC ACTION REQUESTED**

Congress has identified the risk from the public's exposure to electronic devices which emit radiation and passed legislation requiring the FDA to take action to protect the public.<sup>8</sup> The FDA has acknowledged its obligation to act when there is evidence of unnecessary emissions of radiation.<sup>9</sup>

Petitioners therefore request that the FDA issue a Public Health Advisory to all public and private schools and day care centers in the United States, alerting them of the possibility that radiation in excess of the amount required for the proper operation of wireless devices may be present in their facilities, and including instructions for mitigating such unnecessary

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<sup>8</sup> Specifically, 21 USC 360 ii Sections (a)(2), (a)(4) and (a)(5).

<sup>9</sup> Letter from Ellen Flannery, Director of the Office of Policy at the Center for Devices and Radiological Health dated September 14, 2024, page 5: "This statutory directive ... requires the Agency to assess and determine the extent to which electronic product radiation from a particular product is unnecessary, and, to the extent it is unnecessary, the FDA takes action accordingly."

exposures. Petitioners recommend that such advisories shall include language substantially similar to the following example:

**FDA Advises Schools to Reduce Radiation from  
Wireless Routers and Access Points Due to Potential for Children's  
Exposure to Unnecessary Radiofrequency Radiation**

FDA advises all school administrators and IT staff members to reduce the amount of radiation emitted from classroom routers and wireless access points to the lowest level required to maintain connectivity among wireless devices in the classroom. This level may be far below the factory-set power level established by the manufacturer.

Children are uniquely vulnerable and sensitive to all types of environmental exposures. Long-term exposure to excessive and unnecessary levels of radiofrequency (RF) radiation may result in both acute and chronic health impacts.

For specific information about how to test for and reduce exposure levels in classrooms, please download FDA's pamphlet "Information for Administrators and IT Staff on Reducing Radiation Exposures in Classrooms"<sup>10</sup>

**CONCLUSION**

Children in America's schools are at risk from exposure to excessive and unnecessary levels of radiation emitted from routers and wireless access points. The law mandates that steps be taken to reduce the public's exposure to unnecessary radiation. FDA has identified unnecessary radiation as radiation in excess of that required for the operation of an electronic device. FDA has the authority and responsibility to take the action requested.

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<sup>10</sup> This link would lead to an FDA document similar to this:  
[https://www.techsafeschools.org/\\_files/ugd/2cea04\\_a1dbbc4a18234fa599cdd02265e2337a.pdf](https://www.techsafeschools.org/_files/ugd/2cea04_a1dbbc4a18234fa599cdd02265e2337a.pdf)

## **ENVIRONMENTAL IMPACT**

Petitioners claim a categorical exclusion under one or more provisions of 21 C.F.R. §§ 25.30- 25.34.

## **CERTIFICATION**

The undersigned certifies, that, to the best knowledge and belief of the undersigned, this petition and its attachments includes all information and views on which the petition relies.

A handwritten signature in blue ink, appearing to read 'D. Wood', with a long horizontal flourish extending to the right.

Douglas A. Wood  
Founder and National Director

**Exhibit A**  
**(List of petitioners)**