

July 14, 2026

VIA ECFS

Marlene H. Dortch, Secretary
Federal Communications Commission
45 L Street, NE
Washington, D.C. 20554

**Re: Written *Ex Parte* of Children's Health Defense
In the Matter of Upper C-band (3.98–4.2 GHz), GN Docket No. 25-59;
Expanding Flexible Use of the 3.7 to 4.2 GHz Band, GN Docket No. 18-122**

Dear Ms. Dortch:

Children's Health Defense ("CHD") respectfully submits this *ex parte* regarding the Commission's draft Order addressing the Lower and Upper C-band (3.7 – 4.2 GHz). CHD is a national nonprofit organization dedicated to protecting children's health through science-based public policy and government accountability. CHD has extensively participated in the Commission's radiofrequency ("RF") exposure proceedings and was a petitioner in *Environmental Health Trust v. FCC*, 9 F.4th 893 (D.C. Cir. 2021), in which the United States Court of Appeals for the District of Columbia Circuit held that the Commission failed to provide a reasoned explanation for retaining its RF exposure guidelines after reviewing an extensive evidentiary record concerning impacts on human health, children, long-term exposure, and the environment.

The draft order proposes to authorize substantially higher transmit powers for mobile and portable devices operating in the entire C-band. Although the draft Order presents this proposal as an engineering decision intended to improve coverage and throughput, it necessarily implicates the Commission's RF exposure framework. Before authorizing higher device power, the Commission should explain why its existing exposure limits, compliance methodologies, and testing assumptions remain scientifically adequate for the technologies the Order seeks to promote.

Industry commenters argue that today's wireless devices incorporate adaptive beamforming, dynamic power control, RF exposure mitigation techniques, and other technological advances that permit higher transmit powers while remaining compliant with existing FCC exposure limits.¹ They are correct that today's devices are much

¹ AT&T January 20, 2026 Comments, p. 7, note 26; CTIA Comments January 20, 2026, p. 33, note 99; see also Qualcomm January 20, 2026 Comments pp. 5-6.

different than those in the marketplace several years ago. The assertion these newer devices are able to manage higher output while staying within existing limits is very much open to question since as explained below the current limits simply do not account for multiple mobile/portable sources in the home environment. But even assuming those claims are correct, they do not answer the central question before the Commission. The issue is not merely whether devices can comply with existing rules. Rather, it is whether those rules—and the assumptions upon which they rest—remain adequate for evaluating increasingly sophisticated wireless technologies operating at higher permissible power levels.

The Commission's own justification demonstrates why additional analysis is necessary. Draft Order ¶ 72 explains that the proposed 4-watt Effective Isotropic Radiated Power ("EIRP") limit is intended to improve user equipment coverage and throughput, including for fixed wireless broadband deployed inside homes. Those performance improvements necessarily result from permitting devices to transmit more RF energy under conditions where existing power limits would otherwise constrain performance. While actual human exposure depends on numerous variables—including antenna design, adaptive beamforming, duty cycle, device orientation, operating frequency, network loading, and separation distance—the Commission cannot reasonably conclude that increasing permissible transmit power raises no exposure questions simply because compliance testing continues under the existing framework.

Indeed, the very technological advances cited by industry warrant closer examination rather than less. Modern wireless systems employ adaptive beamforming, massive MIMO antenna arrays, carrier aggregation, sophisticated modulation techniques, persistent broadband traffic, and increasingly complex power management algorithms that differ substantially from the wireless technologies used to develop the Commission's historical exposure analysis. The draft Order contains no meaningful explanation why compliance methodologies developed for earlier generations of wireless technology remain sufficient for evaluating these fundamentally different operating characteristics.

Particularly important are the assumptions underlying the Commission's distinction between mobile and portable devices operating within 20 centimeters of the body and mobile devices intended to operate at separation distances greater than 20 centimeters. Industry commenters suggest that modern RF exposure mitigation techniques ensure continued compliance even as permissible transmit powers increase. However, the Commission does not explain whether the assumed separation distances reflected in its testing protocols correspond to reasonably foreseeable real-world use of modern wireless equipment. This question is especially significant where the Commission proposes increasing power specifically to improve indoor fixed wireless broadband service. Such equipment may operate for prolonged periods inside occupied homes, in close proximity to residents, and under conditions that materially differ from the assumptions underlying historical compliance evaluations.

Nor does the draft Order explain how higher-power operations may affect cumulative real-world RF exposure. Homes increasingly contain multiple simultaneously operating wireless devices, including fixed wireless equipment, mobile and portable devices, Wi-Fi systems, wearable technologies, and other connected products. The

Commission does not analyze how these evolving deployment patterns interact with the proposed increase in permissible device power or whether existing compliance methodologies adequately reflect the cumulative RF environment experienced by the public.

The current exposure rules address multiple RF sources, to be sure. 47 C.F.R. § 1.1307(b)(3)(ii)(A). But that subclause addresses exemptions from the duty to perform an environmental evaluation for device approval. It does not impose overall multiple source exposure limits. Nor do the current rules have any mitigation requirements where there are multiple mobile, portable and/or fixed sources. Mitigation is currently necessary only when there are multiple fixed sources. 47 C.F.R. § 1.1307(b)(4). Stated simply, the current rules do not have any provision recognizing and dealing with multiple mobile/portable RF sources and possibly even fixed sources. There is no “human exposure limit” that applies to the current home environment that now typically has many such sources. Increasing power output will only make things worse.

These omissions are particularly significant because the Commission remains subject to the D.C. Circuit's decision in *Environmental Health Trust*. The court held that the Commission failed to adequately respond to record evidence concerning non-cancer biological effects, children's health, long-term exposure, environmental impacts, the ubiquity of wireless devices (that leads to multiple source exposures) and the adequacy of its existing testing assumptions. Yet the draft Order proposes authorizing materially higher device power without addressing those unresolved issues or explaining why the Commission's existing exposure framework remains adequate in light of the technologies now being deployed.²

The Commission need not begin this analysis from scratch. The record in GN Docket No. 18-122 already contains extensive scientific and technical submissions addressing biological effects, RF exposure assessment, compliance methodologies, and modern wireless technologies. Before expanding permissible device power, the Commission should explain why that existing record does not warrant additional analysis or reconsideration of its current exposure framework.

CHD supports technological innovation and improved communications infrastructure. However, innovation should not come at the expense of transparent, science-based decision-making. The Administrative Procedure Act requires agencies to engage in reasoned decision-making, particularly where a reviewing court has already found significant deficiencies in the agency's explanation of its actions.

Accordingly, before the Commission authorizes regulatory changes that may materially increase public RF emissions (and, therefore exposures) by adopting the proposed 4-watt EIRP limit, the Commission should:

² The record in GN Docket No. 18-122 contains many filings by commenters, and especially Theodora Scarato and Kevin Mottus, providing scientific and medical evidence indicating the existing exposure rules are inadequate even under the current emission limits for mobile and portable devices.

- Explain how the proposed increase in permissible device power affects compliance with existing RF exposure limits and why those limits remain adequate;
- Explain why existing RF compliance methodologies—including assumptions regarding separation distance, body positioning, operating configurations, and modern RF exposure mitigation technologies—remain appropriate for adaptive beamforming, massive MIMO, carrier aggregation, advanced antenna systems, and higher-power operations, especially when common households have many mobile/portable and sometimes fixed devices;
- Analyze the implications of higher-power operations for indoor fixed, mobile and portable wireless deployments, prolonged residential operation, and cumulative and simultaneous real-world RF exposure;
- Address whether existing testing assumptions adequately account for foreseeable use by children and other potentially vulnerable populations; and
- Fulfill the Commission's obligations under *Environmental Health Trust v. FCC*.

The Commission repeatedly states that protecting public health is among the objectives of its RF exposure regulations. Before authorizing substantially higher permissible device power, it should explain—through transparent scientific analysis and reasoned decision-making—why its existing exposure framework remains adequate for the technologies and operating conditions this Order seeks to advance. Until that explanation is provided, the proposed increase in permissible device power should not be adopted.

Respectfully submitted,



Miriam Eckenfels
Director, Electromagnetic Radiation &
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Documents(s) Attached: Written Ex Parte of Children's Health Defense Proposed C-Band Order_exe.pdf

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