Technical Recommendations for RF/EMF Exposure Research and Evidence Verification

Response to the U.S. Department of Health and Human Services Request for Information

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RESEARCH INITIATIVE	Proliferate Change Technologies (PCT)
PERSPECTIVE	Business founder; independent technology research

Purpose and evidence status

This submission recommends reproducible methods for RF/EMF exposure characterization and traceable coordination of research evidence. It is a methodological proposal, not a report of exposure measurements, a biomedical experiment, or proof of any specific health effect. Maxwell-based electromagnetic calculations can inform physical exposure modeling; they cannot, by themselves, establish health causation. Proposed applications and software concepts described below have not been independently validated for human RF exposure assessment.

Question 2 - Respondent perspective

I submit these comments as a business founder and independent technology researcher. Through PCT, I am exploring mathematical modeling, computational verification, and systems for evidence-based analysis and operational accountability. My directly relevant contribution is a proposed research workflow, rather than a clinical, epidemiological, or RF dosimetry dataset.

Question 5(p) - Exposure classification

A useful exposure classification framework should identify the underlying physical quantity and measurement context instead of compressing dissimilar RF conditions into one unqualified score. At minimum, records should identify operating frequency or band, electric- and magnetic-field strength where appropriate, incident power density where appropriate, specific absorption rate (SAR) when applicable, modulation/pulsing and duty cycle, antenna or beamforming configuration, source-to-person distance, body proximity, duration, and co-occurring sources. Every record should identify units, averaging interval, instrument or model type, and uncertainty. These factors correspond to the dimensions specifically requested in the RFI [1]. Comparison with existing FCC rules and international guidelines should preserve their differing exposure quantities and applicability [2, 3].

Question 8 - Improvements to real-world exposure assessment

HHS could encourage study protocols that pair physics-based modeling with calibrated measurements and transparent validation. A reproducible protocol should: (a) define sources, operating modes, geometry, and near-/far-field assumptions; (b) collect time-stamped measurements using documented calibration; (c) distinguish measured observations from derived quantities and modeled estimates; (d) report spatial and temporal variability, uncertainty, missingness, and model-to-measurement discrepancies; and (e) make methods and non-sensitive datasets available for independent reanalysis. Exposure-to-health analysis should then be performed under separately specified biological or epidemiological protocols, not inferred from field calculations alone.

Question 16 - Priority research gaps

High-priority gaps include methods for characterizing exposure from multiple contemporaneous wireless sources; representative measurements across everyday use conditions and changing device behaviors; consistent treatment of averaging windows, spatial variability, and uncertainty; and independent replication of exposure models. Studies should clearly separate exposure characterization from causal health inference, including attention to confounding, study design, statistical power, and pre-specified outcomes. A cumulative-exposure metric should not mechanically add incompatible quantities or imply that all exposure components have an equivalent biological effect.

Question 17 - Coordination among federal research programs

Federal research coordination would benefit from interoperable evidence records containing stable study identifiers, source citations, dataset and calculation versions, collection methods, units, calibration provenance, uncertainty statements, limitations, review status, and correction history. Access controls and independent review should govern sensitive data, while published results should remain traceable to the methods and evidence supporting them. Agencies could use common data dictionaries and controlled, auditable workflows while retaining their distinct scientific and statutory roles.

Practical pilot and potential technical contribution

A bounded pilot could publish a non-sensitive test dataset from a specified RF source and measurement setting, document a physics-based prediction and its uncertainty, and invite an independent group to reproduce both the calculations and the comparisons with measured results. Acceptance criteria should be established before evaluation and include transparent reporting of failures and unresolved differences.

PCT research initiatives PHRON and Opraxicore explore, respectively, computational information analysis and traceable coordination across authorized systems. They are prospective supporting architectures, not verified RF-health research products or deployed government services. I welcome HHS correspondence about a limited, independently testable methodological pilot, including possible research discussions, using the business contact information provided above; no proprietary implementation is disclosed in this public docket.

Selected references

[1] U.S. Department of Health and Human Services, Request for Information on Electromagnetic Fields (EMFs), Radiofrequency (RF) Radiation, and Wireless Radiation Exposure, 91 FR 59792-59794 (Sept. 21, 2026), FR Doc. 2026-19252. https://www.govinfo.gov/content/pkg/FR-2026-09-21/html/2026-19252.htm

[2] Federal Communications Commission, 47 CFR § 1.1310, Radiofrequency radiation exposure limits. https://www.ecfr.gov/current/title-47/chapter-I/subchapter-A/part-1/subpart-I/section-1.1310

[3] International Commission on Non-Ionizing Radiation Protection (ICNIRP), Guidelines for Limiting Exposure to Electromagnetic Fields (100 kHz to 300 GHz), Health Physics 118(5):483-524 (2020), doi:10.1097/HP.0000000000001210. https://pubmed.ncbi.nlm.nih.gov/32167495/

Submitted respectfully, William Bass | Founder, Rhodium Pay LLC | PCT