

Public Comment — HHS Wireless Exposure RFI

Response to the Request for Information on Electromagnetic Fields, Radiofrequency Radiation, and Wireless Radiation Exposure (Federal Register document 2026-19252; Docket HHS-OASH-2026-0397).

Date: October 8, 2026

Summary

HHS should evaluate wireless technology not only as a source of exposure but as a medium that can now detect and interpret the human body, because no federal health agency currently assesses that capability or its effects on people.

Respondent perspective (Question 2): individual member of the public, with professional background in healthcare technology sales, including medical devices, diagnostics and federal health accounts.

Questions addressed: 5(n), 9, 10, 11, 13, 16, 17 and 18.

Core points:

1. Wi-Fi, 5G-Advanced and planned 6G networks, radar and cameras can already detect breathing, heart rate, movement and indicators of stress, without any device worn by the person.
2. Combined with artificial intelligence, these readings can support inferences about a person's emotional and mental state.
3. Current U.S. neural data laws largely exclude mental-state information inferred this way, and no federal agency has clear responsibility for its health and wellbeing effects.
4. HHS is well placed to name this as a research gap and to coordinate with the FTC, FCC and NIST.

Why sensing belongs in this review (Questions 13 and 18)

The same radio signals this RFI asks about are increasingly used to measure the people they pass through, which changes what "exposure" means for public health.

Traditional exposure assessment asks how much energy reaches the body and whether it causes harm. Newer wireless systems also return information about the body: whether someone is present, how they are moving, how fast they breathe and how fast their heart beats. That information, processed by AI, can be used to estimate stress, fatigue or emotional state.

This creates a second category of effect that current standards do not address: what happens to people when the environment around them is continuously reading them. Possible health-relevant concerns include stress or anxiety from awareness of being monitored, effects of systems that adjust what a person hears, sees or receives based on inferred emotional state, and harms to children and other vulnerable groups who cannot meaningfully consent.

Question 13 asks how 5G, 6G, Wi-Fi, IoT, wearables, smart homes and smart cities affect cumulative exposure patterns. These are exactly the technologies now gaining sensing functions, so cumulative sensing should be assessed alongside cumulative exposure.

What current technology can already detect

Without any wearable, existing systems can measure presence, motion, breathing and heart rate, and estimate stress or attention; reading thoughts or words still requires sensors on or in the head.

Technology	What it can detect today	Range	Status
Wi-Fi sensing (IEEE 802.11bf)	Presence, motion, falls, breathing, heart rate	Room scale, through walls	Standardized; entering products
5G-Advanced and 6G integrated sensing and communication	Networks that sense the environment while transmitting	Cell scale	In standards development
Millimeter-wave radar	Breathing, heartbeat, small movements	Several meters	Commercial
Ordinary cameras	Heart rate from subtle skin color changes; eye movement and pupil size, which track attention and arousal	Several meters	Research and commercial
Voice and facial analysis	Estimated stress, fatigue, emotion (accuracy disputed)	Microphone or camera range	Commercial
Consumer neural wearables	Brain and muscle signals via headbands and wristbands	Skin contact	Commercial
Implanted brain-computer interfaces	Attempted and imagined speech decoded to text or voice; mood decoding in trials	Implanted	Clinical trials

Limits. Brain electrical and magnetic activity cannot be read from a distance; the signals are too faint. Decoding words or images from the brain requires implants or scanners, per-person training and cooperation. The concern in this comment is not mind-reading at a distance; it is how much can be inferred from the body's outward signals.

Hypothetical scenarios (Questions 11 and 18)

The following scenarios are hypothetical. They are not claims that any of them is occurring; they illustrate how existing capabilities could combine in ways no current framework evaluates.

1. **Continuous physiological profiling.** Home Wi-Fi, a smart speaker, a doorbell camera and a phone together record a person's heart rate, breathing, movement and voice stress daily. Over months, an AI system learns that individual's baseline and can flag changes in mood or health, without the person ever wearing a device or knowing the profile exists.
2. **Pooled emotional models.** Data from many such homes trains a shared model of how bodies respond to stress, fear or excitement. The model can then estimate a new person's state before learning them individually.
3. **Responsive environments.** A system that infers a person's emotional state adjusts what they hear, see or are offered (sound, content, advertising) to shift that state. Repeated pairing of ordinary sounds or cues with emotional moments is a well-documented way of shaping responses over time.
4. **Children and vulnerable groups.** A school, care facility or shared housing unit equipped with sensing infrastructure could profile residents who cannot meaningfully consent or opt out, including people with cognitive impairments or implanted medical devices.
5. **Reports without a pathway.** A person who becomes aware of, or believes they are experiencing, such monitoring has no clear agency to report to, no standard test to request and no named legal wrong to cite. Their reports are difficult to evaluate, and there is no surveillance system to detect patterns across reports (Question 10).

Each scenario combines components that exist today. What does not exist is any federal process that assesses their combined effect on human health and wellbeing.

Gaps in current oversight (Question 5(n))

U.S. law protects some brain data measured directly, but not the mental-state information inferred from the body, and no federal health agency owns the question.

- **The inferred-data gap.** State neural data laws in Colorado, California, Montana, Connecticut, Minnesota, Vermont and Delaware cover signals measured directly from the nervous system. Most exclude information inferred from downstream indicators such as heart rate or facial expressions, which is exactly what wireless sensing produces.
- **Partial fixes only.** California's AB 1883, signed September 30, 2026, bans AI emotion inference by employers. The EU AI Act bans it in workplaces and schools. Neither reaches homes, public spaces or infrastructure generally.
- **No federal law.** The MIND Act (S. 2925) would only order an FTC study and has not advanced.

- **Split authority.** The FCC sets exposure limits; the FTC polices unfair data practices; FDA regulates medical devices and electronic product radiation; NIST sets technical benchmarks. None is charged with the health effects of ambient sensing and inference.
- **No reporting pathway.** There is no adverse event system for people who report harm they associate with wireless monitoring, and no standard clinical evaluation for them.

Recommendations

HHS should treat ambient sensing and inference as a named research priority and coordinate with the agencies that already hold pieces of it.

#	Recommendation	RFI question
1	Add “sensing and inference capability” as an assessment category alongside power density, SAR and duty cycle	5(p), 13
2	Fund NIH research on the psychological and physiological effects of continuous ambient monitoring, including awareness of being monitored	16
3	Require disclosure when consumer devices, smart meters or infrastructure perform physiological sensing, in plain language for residents, schools and local governments	9
4	Create a CDC-supported adverse event reporting pathway for people who report harm they associate with wireless exposure or monitoring, with standardized intake so patterns can be evaluated	10(f)
5	Give heightened protection to children, pregnant women, older adults, people with implanted medical devices and people with cognitive impairments in sensing-equipped schools, care	11

#	Recommendation	RFI question
6	facilities and housing Develop clinical evaluation guidance so clinicians can assess reports involving perceived sounds, pressure or other sensations alongside environmental measurement	4, 16
7	Coordinate with the FTC (data practices), FCC (spectrum and exposure limits) and NIST (sensing standards) through an interagency working group	17
8	Recommend that any federal neural data standard define protected information by what it reveals about mental state, not by how it was captured	5(n), 18

Scope and limits of this comment

This comment identifies a gap in what is being evaluated; it does not claim that wireless sensing currently causes health harm.

- Major health agencies have generally found no confirmed health harm from wireless exposure within current safety limits. This comment does not dispute that baseline.
- The capabilities described are drawn from published standards, research and commercial products. The scenarios are hypothetical and offered to illustrate assessment gaps.
- Per the RFI's instructions, this comment contains no personally identifiable or personal health information.

Submission: Docket HHS-OASH-2026-0397 on regulations.gov, using the "Comment" button. Comments are due 30 days after the September 21, 2026 publication; confirm the final date on the docket before filing. Contact: OASH-RFI@hhs.gov.

Sources

- HHS RFI, Federal Register document 2026-19252: <https://public-inspection.federalregister.gov/2026-19252.pdf>
- NIST on IEEE 802.11bf WLAN sensing: <https://www.nist.gov/node/1742991>
- Haynes Boone on neural data law definitions: <https://www.haynesboone.com/news/publications/issar-shugrue-houghtlin-in-risk-management-magazine-on-neural-data-privacy-laws>

- Ogletree on California AB 1883:
<https://ogletree.com/insights-resources/blog-posts/california-governor-signs-3-bills-targeting-ai-and-workplace-surveillance/>
- Neurorights Foundation, U.S. state laws:
<https://www.neurorightsfoundation.org/advocacy/united-states>
- SecurePrivacy on EU AI Act Article 5: <https://secureprivacy.ai/blog/eu-ai-act-article-5-prohibited-ai-practices-and-compliance-guide-2026>
- Alston & Bird on the MIND Act: <https://www.alstonprivacy.com/unlocking-the-mind-act-the-senate-to-take-on-the-challenge-of-neurotechnology/>
- Cooley on 2026 neural data bills: <https://www.cooley.com/news/insight/2026/2026-02-23-your-brain-their-rules-the-growing-patchwork-of-neural-data-regulation>
- FTC biometric policy statement summary:
<https://www.mondaq.com/unitedstates/new-technology/1323176/ftc-policy-statement-on-use-of-biometric-information-technology-lays-the-groundwork-for-future-enforcement-activity>