Attachment B - Real-World RF Exposure & Testing Questions

A practical framework for evaluating whether compliance testing reflects modern use

ET Docket No. 13-84 | Supplemental material supporting public comment

Purpose: This attachment proposes test questions and measurement priorities. It does not assert that simultaneous or long-duration exposure is harmful; it asks whether existing compliance methods adequately characterize foreseeable exposure.

Regulatory problem

The court specifically identified long-term exposure, children, RF pulsation or modulation, the ubiquity of wireless devices and Wi-Fi, and newer technologies as matters requiring a reasoned explanation. The FCC's 2026 notice also asks whether laboratory conditions credibly resemble realistic U.S. deployment scenarios and whether exposure is measured with calibrated instruments and accepted methods.

Representative modern exposure scenarios

Scenario	Possible simultaneous RF sources	Question for the FCC
Home	Cellular handset, Wi-Fi router/mesh nodes, Bluetooth accessories, smart TV, smart speakers, security/IoT devices, nearby base stations.	Does certification plus current exposure modeling adequately characterize aggregate personal exposure when multiple transmitters operate at once?
School / public building	Phones, tablets/laptops, dense Wi-Fi, Bluetooth peripherals, access-control/IoT systems, nearby infrastructure.	Are children and dense multi-user environments represented in exposure assumptions and validation measurements?
Vehicle	Phone radios, Bluetooth, Wi-Fi hotspot, connected-vehicle systems, navigation/satellite receivers and roadside/cellular infrastructure.	Do testing assumptions account for enclosed spaces, changing transmit power and simultaneous radios?
Wearable use	Phone plus smartwatch, earbuds, health/fitness wearables and other body-worn devices.	Are separation distances, body contact and extended duration modeled consistently with foreseeable use?

Recommended measurement and validation questions

- How does the FCC account for simultaneous operation of multiple radios within one device and multiple nearby devices?
- When aggregate exposure is evaluated, which combinations are assumed and which are directly measured?
- Are body-contact and near-body configurations tested when they are reasonably foreseeable in ordinary use?
- How are adaptive transmit power, duty cycle, modulation, beamforming and rapidly changing traffic conditions represented?
- Are compliance measurements periodically compared with personal or environmental measurements from homes, schools, workplaces, vehicles and public spaces?

- How are children and long-duration users represented in anatomical models, use assumptions and uncertainty margins?
- Can anonymized measurement protocols and validation datasets be released so independent laboratories can reproduce key results?

A useful regulatory distinction

Device compliance and population exposure are related but different questions. A device may comply individually while the Commission still needs a scientifically defensible method for characterizing the combined exposure environment. Conversely, the mere presence of many RF sources does not establish that applicable limits are exceeded. Direct measurement and transparent modeling can resolve that question better than assumption alone.

Sources and record references

1. FCC Public Notice, DA 26-997 (2026). Asks about calibrated measurement, dosimetry, dose-response, controls, and realistic deployment scenarios. Source

2. Environmental Health Trust v. FCC, 9 F.4th 893 (D.C. Cir. 2021). Discusses long-term exposure, modulation/pulsation, wireless ubiquity, Wi-Fi and 5G as remand issues. Source