

supplements to Bulletin 65, all available at the FCC's Internet Web site: www.fcc.gov/oet/rfsafety.

Note to Introductory Paragraph: These limits are generally based on recommended exposure guidelines published by the National Council on Radiation Protection and Measurements (NCRP) in "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," NCRP Report No. 86, Sections 17.4.1, 17.4.1.1, 17.4.2 and 17.4.3. Copyright NCRP, 1986, Bethesda, Maryland 20814. In the frequency range from 100 MHz to 1500 MHz, exposure limits for field strength and power density are also generally based on guidelines recommended by the American National Standards Institute (ANSI) in Section 4.1 of "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," ANSI/IEEE C95.1-1992. Copyright 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017. Limits for whole body SAR and spatial peak SAR are based on recommendations made in both of these documents.

* * * * *

(a) Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure. The phrase *fully aware* in the context of applying these exposure limits means that an exposed individual has received written and verbal information fully explaining the potential for RF exposure resulting from his or her employment. With the exception of *transient* individuals, this phrase also means that an exposed individual has received comprehensive training regarding appropriate work practices relating to controlling or mitigating his or her exposure. Such training is not required for *transient* individuals, but they must receive written or verbal information and notification (for example, warning signs) concerning their exposure potential and appropriate means available to mitigate their exposure. The phrase *exercise control* means that an exposed individual is allowed to reduce or avoid exposure by administrative or engineering work practices, such as use

of personal protective equipment or time-averaging of exposure.

(b) General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

(c) Licensees and applicants are generally responsible for compliance with both the occupational/controlled exposure limits and the general population/uncontrolled exposure limits as they apply to transmitters under their jurisdiction. Licensees and applicants should be aware that the occupational/controlled exposure limits apply especially in situations where workers may have access to areas in very close proximity to antennas where access to the general public may be restricted.

(d) Amateur radio station licensees must also take steps to ensure that their stations comply with the exposure limits, as noted in § 1.1307(b), table 1, of this section and in § 97.13(c) of that chapter. For example, for a typical amateur station located at a residence the station licensee and members of his or her immediate household may be evaluated with respect to the occupational/controlled exposure limits, provided the appropriate conditions specified in paragraph (a) of this section. Other nearby persons, such as neighbors, who are not members of the amateur licensee's household must be evaluated with respect to the general population/uncontrolled exposure limits. Similar considerations apply to amateur stations located at places other than a residence.

PART 2—FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

4. The authority citation for Part 2 continues to read as follows:

Authority: 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.

5. Section 2.1091 is amended by revising paragraphs (c), (d) introductory text and (d)(3) to read as follows:

§ 2.1091 Radiofrequency radiation exposure evaluation: mobile devices.

* * * * *

(c) Mobile devices that operate in the Cellular Radiotelephone Service, the Personal Communications Service (PCS), the Satellite Communications Service, the Wireless Communications Service, the Maritime Services, the Specialized Mobile Radio Service, authorized under subpart H of part 22,

parts 24, 25, 27, 80 (ship earth station devices only), and 90 of this chapter are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use if they operate at frequencies of 1.5 GHz or below and their effective radiated power (ERP) is 1.5 watts or more, or if they operate at frequencies above 1.5 GHz and their ERP is 3 watts or more. Unlicensed personal communications service devices, unlicensed millimeter wave devices and unlicensed NII devices authorized under § 15.253, § 15.255, and subparts D and E of part 15 of this chapter are also subject to routine environmental evaluation for RF exposure prior to equipment authorization or use if their ERP is 3 watts or more or if they meet the definition of a portable device as specified in § 2.1093(b) requiring evaluation under the provisions of that section. All other mobile and unlicensed transmitting devices are categorically excluded from routine environmental evaluation for RF exposure prior to equipment authorization or use, except as specified in §§ 1.1307(c) and 1.1307(d) of this chapter. Applications for equipment authorization of portable transmitting devices subject to routine environmental evaluation must contain a statement confirming compliance with the limits specified in paragraph (d) of this section as part of their application. Technical information showing the basis for this statement must be submitted to the Commission upon request.

(1) When antennas for part 15 modular transmitters ("transmitter modules") that operate at power levels of 200 mW or less (peak EIRP or peak conducted output power) are designed to be incorporated into a laptop ("notebook") computer such that they will be located at a distance of at least 20 cm from the body of a user (the configuration necessary to be classified as a mobile device) evaluation of the modular transmitter for compliance with the Commission's RF exposure limits is not required. Evaluation for compliance with the Commission's RF exposure limits is required for modular transmitters operating in excess of 200 mW (peak EIRP or peak conducted output power).

(2) In general, the maximum RF exposure of a combination device (host device plus modules) can be determined by adding the frequency-dependent RF exposure levels of all antennas incorporated within a single combination device that could functionally transmit at the same time. Such antennas can be considered to be