

## Federal Communications Commission

## § 18.109

18.311 Methods of measurements.

AUTHORITY: 47 U.S.C. 4, 301, 302, 303, 304, 307.

SOURCE: 50 FR 36067, Sept. 5, 1985, unless otherwise noted.

### Subpart A—General Information

#### § 18.101 Basis and purpose.

The rules in this part, in accordance with the applicable treaties and agreements to which the United States is a party, are promulgated pursuant to section 302 of the Communications Act of 1934, as amended, vesting the Federal Communications Commission with authority to regulate industrial, scientific, and medical equipment (ISM) that emits electromagnetic energy on frequencies within the radio frequency spectrum in order to prevent harmful interference to authorized radio communication services. This part sets forth the conditions under which the equipment in question may be operated.

#### § 18.107 Definitions.

(a) *Radio frequency (RF) energy.* Electromagnetic energy at any frequency in the radio spectrum from 9 kHz to 3 THz (3,000 GHz).

(b) *Harmful interference.* Interference which endangers the functioning of a radionavigation service or of other safety services or seriously degrades, obstructs or repeatedly interrupts a radiocommunication service operating in accordance with this chapter.

(c) *Industrial, scientific, and medical (ISM) equipment.* Equipment or appliances designed to generate and use locally RF energy for industrial, scientific, medical, domestic or similar purposes, excluding applications in the field of telecommunication. Typical ISM applications are the production of physical, biological, or chemical effects such as heating, ionization of gases, mechanical vibrations, hair removal and acceleration of charged particles.

(d) *Industrial heating equipment.* A category of ISM equipment used for or in connection with industrial heating operations utilized in a manufacturing or production process.

(e) *Medical diathermy equipment.* A category of ISM equipment used for therapeutic purposes, not including

surgical diathermy apparatus designed for intermittent operation with low power.

(f) *Ultrasonic equipment.* A category of ISM equipment in which the RF energy is used to excite or drive an electromechanical transducer for the production of sonic or ultrasonic mechanical energy for industrial, scientific, medical or other noncommunication purposes.

(g) *Consumer ISM equipment.* A category of ISM equipment used or intended to be used by the general public in a residential environment, notwithstanding use in other areas. Examples are domestic microwave ovens, jewelry cleaners for home use, ultrasonic humidifiers.

(h) *ISM frequency.* A frequency assigned by this part for the use of ISM equipment. A specified tolerance is associated with each ISM frequency. See § 18.301.

(i) *Marketing.* As used in this part, marketing shall include sale or lease, offer for sale or lease, advertising for sale or lease, the import or shipment or other distribution for the purpose of sale or lease or offer for sale or lease. See subpart I of part 2 of this chapter.

(j) *Magnetic resonance equipment.* A category of ISM equipment in which RF energy is used to create images and data representing spatially resolved density of transient atomic resources within an object.

NOTE: In the foregoing, sale (or lease) shall mean sale (or lease) to the user or a vendor who in turn sells (or leases) to the user. Sale shall not be construed to apply to devices sold to a second party for manufacture or fabrication into a device which is subsequently sold (or leased) to the user.

[50 FR 36067, Sept. 5, 1985, as amended at 59 FR 39472, Aug. 3, 1994]

#### § 18.109 General technical requirements.

ISM equipment shall be designed and constructed in accordance with good engineering practice with sufficient shielding and filtering to provide adequate suppression of emissions on frequencies outside the frequency bands specified in § 18.301.