

harmful interference to the incumbent microwave facilities.

(f) *Peak transmit power.* The peak power output as measured over an interval of time equal to the frame rate or transmission burst of the device under all conditions of modulation. Usually this parameter is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used.

(g) *Personal Communications Services (PCS) Devices [Unlicensed].* Intentional radiators operating in the frequency band 1920–1930 MHz that provide a wide array of mobile and ancillary fixed communication services to individuals and businesses.

(h) *Spectrum window.* An amount of spectrum equal to the intended emission bandwidth in which operation is desired.

(i) *Sub-band.* For purposes of this subpart the term sub-band refers to the spectrum allocated for isochronous or asynchronous transmission.

(j) *Thermal noise power.* The noise power in watts defined by the formula  $N=kTB$  where  $N$  is the noise power in watts,  $k$  is Boltzmann's constant,  $T$  is the absolute temperature in degrees Kelvin (e.g., 295 °K) and  $B$  is the emission bandwidth of the device in hertz.

(k) *Time window.* An interval of time in which transmission is desired.

[58 FR 59180, Nov. 8, 1993, as amended at 59 FR 32852, June 24, 1994; 60 FR 13073, Mar. 10, 1995; 69 FR 62620, Oct. 27, 2004; 69 FR 77949, Dec. 29, 2004]

**§ 15.305 Equipment authorization requirement.**

PCS devices operating under this subpart shall be certified by the Commission under the procedures in subpart J of part 2 of this chapter before marketing. The application for certification must contain sufficient information to demonstrate compliance with the requirements of this subpart.

**§ 15.307 Coordination with fixed microwave service.**

(a) UTAM, Inc. is designated to coordinate and manage the transition of the 1910–1930 MHz band from the Pri-

vate Operational-Fixed Microwave Service (OFS) operating under part 101 of this chapter to unlicensed PCS operations.

(b) Each application for certification of equipment operating under the provisions of this subpart must be accompanied by an affidavit from UTAM, Inc. certifying that the applicant is a participating member of UTAM, Inc. In the event a grantee fails to fulfill the obligations attendant to participation in UTAM, Inc., the Commission may invoke administrative sanctions as necessary to preclude continued marketing and installation of devices covered by the grant of certification, including but not limited to revoking certification.

(c) An application for certification of a PCS device that is deemed by UTAM, Inc. to be noncoordinatable will not be accepted until the Commission announces that a need for coordination no longer exists.

(d) A coordinatable PCS device is required to incorporate means that ensure that it cannot be activated until its location has been coordinated by UTAM, Inc. The application for certification shall contain an explanation of all measures taken to prevent unauthorized operation. This explanation shall include all procedural safeguards, such as the mandatory use of licensed technicians to install the equipment, and a complete description of all technical features controlling activation of the device.

(e) A coordinatable PCS device shall incorporate an automatic mechanism for disabling operation in the event it is moved outside the geographic area where its operation has been coordinated by UTAM, Inc. The application for certification shall contain a full description of the safeguards against unauthorized relocation and must satisfy the Commission that the safeguards cannot be easily defeated.

(f) At such time as the Commission deems that the need for coordination between unlicensed PCS operations and existing Part 101 Private Operational-Fixed Microwave Services ceases to exist, the disabling mechanism required by paragraph (e) of this section will no longer be required.

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(g) Operations under the provisions of this subpart are required to protect systems in the Private Operational-Fixed Microwave Service operating within the 1850–1990 MHz band until the dates and conditions specified in §§101.69 through 101.73 of this chapter for termination of primary status. Interference protection is not required for part 101 stations in this band licensed on a secondary basis.

(h) The operator of a PCS device that is relocated from the coordinated area specified by UTAM, Inc., must cease operating the device until coordination for the new location is verified by UTAM, Inc.

[58 FR 59180, Nov. 8, 1993, as amended at 59 FR 32852, June 24, 1994; 60 FR 27425, May 24, 1995; 61 FR 29689, June 12, 1996]

### § 15.309 Cross reference.

(a) The provisions of subpart A of this part apply to unlicensed PCS devices, except where specific provisions are contained in subpart D.

(b) The requirements of subpart D apply only to the radio transmitter contained in the PCS device. Other aspects of the operation of a PCS device may be subject to requirements contained elsewhere in this chapter. In particular, a PCS device that includes digital circuitry not directly associated with the radio transmitter also is subject to the requirements for unintentional radiators in subpart B.

### § 15.311 Labeling requirements.

In addition to the labeling requirements of §15.19(a)(3), all devices operating in the frequency band 1920–1930 MHz authorized under this subpart must bear a prominently located label with the following statement:

Installation of this equipment is subject to notification and coordination with UTAM, Inc. Any relocation of this equipment must be coordinated through, and approved by UTAM. UTAM may be contacted at 1-800-429-8826.

[69 FR 62620, Oct. 27, 2004]

### § 15.313 Measurement procedures.

Measurements must be made in accordance with subpart A, except where specific procedures are specified in sub-

part D. If no guidance is provided, the measurement procedure must be in accordance with good engineering practice.

### § 15.315 Conducted limits.

An unlicensed PCS device that is designed to be connected to the public utility (AC) power line must meet the limits specified in §15.207.

### § 15.317 Antenna requirement.

An unlicensed PCS device must meet the antenna requirement of §15.203.

### § 15.319 General technical requirements.

(a) [Reserved]

(b) All transmissions must use only digital modulation techniques.

(c) Peak transmit power shall not exceed 100 microwatts multiplied by the square root of the emission bandwidth in hertz. Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

(d) Power spectral density shall not exceed 3 milliwatts in any 3 kHz bandwidth as measured with a spectrum analyzer having a resolution bandwidth of 3 kHz.

(e) The peak transmit power shall be reduced by the amount in decibels that the maximum directional gain of the antenna exceeds 3 dBi.

(f) The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. The provisions in this section are not intended to preclude transmission of control and signaling information or use of repetitive codes used by certain digital technologies to complete frame or burst intervals.

(g) Notwithstanding other technical requirements specified in this subpart, attenuation of emissions below the