

§2.901

of that signal, and (2) is not an integral part of a radio transmitter as manufactured.

(b) No person shall manufacture, sell or lease, offer for sale or lease (including advertising for sale or lease) or import, ship or distribute for the purpose of selling or leasing or offering for sale or lease, any external radio frequency power amplifier capable of operation on any frequency or frequencies below 144 MHz unless the amplifier has received a grant of certification in accordance with subpart J of this part and other relevant parts of this chapter. These amplifiers shall comply with the following:

(1) The external radio frequency power amplifier shall not be capable of amplification in the frequency band 26–28 MHz.

(2) The amplifier shall not be capable of easy modification to permit its use as an amplifier in the frequency band 26–28 MHz.

(3) No more than 10 external radio frequency power amplifiers may be constructed for evaluation purposes in preparation for the submission of an application for a grant of certification.

(4) If the external radio frequency power amplifier is intended for operation in the Amateur Radio Service under part 97 of this chapter, the requirements of §§97.315 and 97.317 of this chapter shall be met.

[40 FR 1246, Jan. 7, 1975; 40 FR 6474, Feb. 12, 1975, as amended at 43 FR 12687, Mar. 27, 1978; 43 FR 33725, Aug. 1, 1978; 46 FR 18981, Mar. 27, 1981; 62 FR 10470, Mar. 7, 1997; 71 FR 66461, Nov. 15, 2006]

Subpart J—Equipment Authorization Procedures

SOURCE: 39 FR 5919, Feb. 15, 1974, unless otherwise noted.

GENERAL PROVISIONS

§2.901 Basis and purpose.

(a) In order to carry out its responsibilities under the Communications Act and the various treaties and international regulations, and in order to promote efficient use of the radio spectrum, the Commission has developed technical standards for radio frequency equipment and parts or components

47 CFR Ch. I (10–1–15 Edition)

thereof. The technical standards applicable to individual types of equipment are found in that part of the rules governing the service wherein the equipment is to be operated. In addition to the technical standards provided, the rules governing the service may require that such equipment be verified by the manufacturer or importer, be authorized under a Declaration of Conformity, or receive a grant of Certification from a Telecommunication Certification Body.

(b) Sections 2.902 through 2.1077 describe the verification procedure, the procedure for a Declaration of Conformity, and the procedures to be followed in obtaining certification and the conditions attendant to such a grant.

[80 FR 33439, June 12, 2015]

§2.902 Verification.

(a) Verification is a procedure where the manufacturer makes measurements or takes the necessary steps to insure that the equipment complies with the appropriate technical standards. Submittal of a sample unit or representative data to the Commission demonstrating compliance is not required unless specifically requested by the Commission pursuant to §2.957, of this part.

(b) Verification attaches to all items subsequently marketed by the manufacturer or importer which are identical as defined in §2.908 to the sample tested and found acceptable by the manufacturer.

(Secs. 4, 303, 307, 48 Stat., as amended, 1066, 1082, 1083; 47 U.S.C. 154, 303, 307)

[46 FR 23249, Apr. 24, 1981]

§2.906 Declaration of Conformity.

(a) A Declaration of Conformity is a procedure where the responsible party, as defined in §2.909, makes measurements or takes other necessary steps to ensure that the equipment complies with the appropriate technical standards. Submittal of a sample unit or representative data to the Commission demonstrating compliance is not required unless specifically requested pursuant to §2.945.

(b) The Declaration of Conformity attaches to all items subsequently marketed by the responsible party which are identical, as defined in §2.908, to the sample tested and found acceptable by the responsible party.

[61 FR 31045, June 19, 1996, as amended at 80 FR 33439, June 12, 2015]

§2.907 Certification.

(a) Certification is an equipment authorization approved by the Commission or issued by a Telecommunication Certification Body (TCB) and authorized under the authority of the Commission, based on representations and test data submitted by the applicant.

(b) Certification attaches to all units subsequently marketed by the grantee which are identical (see §2.908) to the sample tested except for permissive changes or other variations authorized by the Commission pursuant to §2.1043.

[39 FR 5919, Feb. 15, 1974, as amended at 39 FR 27802, Aug. 1, 1974; 63 FR 36597, July 7, 1998; 80 FR 33439, June 12, 2015]

§2.908 Identical defined.

As used in this subpart, the term *identical* means identical within the variation that can be expected to arise as a result of quantity production techniques.

(Secs. 4, 303, 307, 48 Stat., as amended, 1066, 1082, 1083; 47 U.S.C. 154, 303, 307)

[46 FR 23249, Apr. 24, 1981]

§2.909 Responsible party.

The following parties are responsible for the compliance of radio frequency equipment with the applicable standards:

(a) In the case of equipment which requires the issuance of a grant of certification, the party to whom that grant of certification is issued (the grantee). If the radio frequency equipment is modified by any party other than the grantee and that party is not working under the authorization of the grantee pursuant to §2.929(b), the party performing the modification is responsible for compliance of the product with the applicable administrative and technical provisions in this chapter.

(b) In the case of equipment subject to authorization under the verification procedure, the manufacturer or, in the

case of imported equipment, the importer. If subsequent to manufacture and importation, the radio frequency equipment is modified by any party not working under the authority of the responsible party, the party performing the modification becomes the new responsible party.

(c) In the case of equipment subject to authorization under the Declaration of Conformity procedure:

(1) The manufacturer or, if the equipment is assembled from individual component parts and the resulting system is subject to authorization under a Declaration of Conformity, the assembler.

(2) If the equipment, by itself, is subject to a Declaration of Conformity and that equipment is imported, the importer.

(3) Retailers or original equipment manufacturers may enter into an agreement with the responsible party designated in paragraph (c)(1) or (c)(2) of this section to assume the responsibilities to ensure compliance of equipment and become the new responsible party.

(4) If the radio frequency equipment is modified by any party not working under the authority of the responsible party, the party performing the modifications, if located within the U.S., or the importer, if the equipment is imported subsequent to the modifications, becomes the new responsible party.

(d) If, because of modifications performed subsequent to authorization, a new party becomes responsible for ensuring that a product complies with the technical standards and the new party does not obtain a new equipment authorization, the equipment shall be labelled, following the specifications in §2.925(d), with the following: "This product has been modified by [insert name, address and telephone number of the party performing the modifications]."

[54 FR 17712, Apr. 25, 1989, as amended at 61 FR 31045, June 19, 1996; 62 FR 10470, Mar. 7, 1997; 62 FR 41880, Aug. 4, 1997; 80 FR 33439, June 12, 2015]

§2.910 Incorporation by reference.

(a) The materials listed in this section are incorporated by reference in

this part. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval, and notice of any change in these materials will be published in the FEDERAL REGISTER. All approved material is available for inspection at the Federal Communications Commission, 445 12th St. SW., Reference Information Center, Room CY-A257, Washington, DC 20554, (202) 418-0270 and is available from the sources below. It is also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(b) International Electrotechnical Commission (IEC), IEC Central Office, 3, rue de Varembe, CH-1211 Geneva 20, Switzerland, Email: inmail@iec.ch, www.iec.ch.

(1) CISPR 16-1-4:2010-04: “Specification for radio disturbance and immunity measuring apparatus and methods—Part 1-4: Radio disturbance and immunity measuring apparatus—Antennas and test sites for radiated disturbance measurements”, Edition 3.0, 2010-04, IBR approved for §§2.948(d) and 2.950(f).

(2) [Reserved]

(c) Institute of Electrical and Electronic Engineers (IEEE), 3916 Ranchero Drive, Ann Arbor, MI 48108, 1-800-699-9277, <http://www.techstreet.com/ieee>; (ISO publications can also be purchased from the American National Standards Institute (ANSI) through its NSSN operation (www.nssn.org), at Customer Service, American National Standards Institute, 25 West 43rd Street, New York, NY 10036, telephone (212) 642-4900.)

(1) ANSI C63.4-2014: “American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz,” ANSI approved June 13, 2014, IBR approved for §2.950(h) and:

(i) Sections 5.4.4 through 5.5, IBR approved for §§2.948(d) and 2.950(f); and

(ii) [Reserved]

(2) ANSI C63.10-2013, “American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices,” ANSI approved June 27, 2013, IBR approved for §2.950(g).

(d) International Organization for Standardization (ISO), 1, ch. De la Voie-Creuse, CP 56, CH-1211, Geneva 20, Switzerland; www.iso.org; Tel.: + 41 22 749 01 11; Fax: + 41 22 733 34 30; email: central@iso.org. (ISO publications can also be purchased from the American National Standards Institute (ANSI) through its NSSN operation (www.nssn.org), at Customer Service, American National Standards Institute, 25 West 43rd Street, New York, NY 10036, telephone (212) 642-4900.)

(1) ISO/IEC 17011:2004(E), “Conformity assessment—General requirements for accreditation bodies accrediting conformity assessment bodies,” First Edition, 2004-09-01, IBR approved for §§2.948(e), 2.949(b), 2.950(c) and (d), and 2.960(c).

(2) ISO/IEC 17025:2005(E), “General requirements for the competence of testing and calibration laboratories,” Section Edition, 2005-05-15, IBR approved for §§2.948(e), 2.949(b), 2.962(c) and (d).

(3) ISO/IEC 17065:2012(E), “Conformity assessment—Requirements for bodies certifying products, processes and services,” First Edition, 2012-09-15, IBR approved for §§2.950(b), 2.960(b), 2.962(b), (c), (d), (f), and (g).

(4) ISO/IEC Guide 58:1993(E), “Calibration and testing laboratory accreditation systems—General requirements for operation and recognition”, First Edition 1993, IBR approved for §2.950(d).

(5) ISO/IEC Guide 61:1996(E), “General requirements for assessment and accreditation of certification/registration bodies”, First Edition 1996, IBR approved for §2.950(c).

(6) ISO/IEC Guide 65:1996(E), “General requirements for bodies operating product certification systems,” First Edition 1996, IBR approved for §2.950(b).

[80 FR 33439, June 12, 2015]

Federal Communications Commission

§2.915

APPLICATION PROCEDURES FOR EQUIPMENT AUTHORIZATIONS

§2.911 Application requirements.

(a) All requests for equipment authorization shall be submitted in writing to a Telecommunication Certification Body (TCB) in a manner prescribed by the TCB.

(b) A TCB shall submit an electronic copy of each equipment authorization application to the Commission pursuant to §2.962(f)(6) on a form prescribed by the Commission at <https://www.fcc.gov/eas>.

(c) Each application that a TCB submits to the Commission shall be accompanied by all information required by this subpart and by those parts of the rules governing operation of the equipment, the applicant's certifications required by paragraphs (d)(1) and (2) of this section, and by requisite test data, diagrams, photographs, etc., as specified in this subpart and in those sections of rules under which the equipment is to be operated.

(d) The applicant shall provide to the TCB all information that the TCB requests to process the equipment authorization request and to submit the application form prescribed by the Commission and all exhibits required with this form.

(1) The applicant shall provide a written and signed certification to the TCB that all statements it makes in its request for equipment authorization are true and correct to the best of its knowledge and belief.

(2) The applicant shall provide a written and signed certification to the TCB that the applicant complies with the requirements in §1.2002 of this chapter concerning the Anti-Drug Abuse Act of 1988.

(3) Each request for equipment authorization submitted to a TCB, including amendments thereto, and related statements of fact and authorizations required by the Commission, shall be signed by the applicant if the applicant is an individual; by one of the partners if the applicant is a partnership; by an officer, if the applicant is a corporation; or by a member who is an officer, if the applicant is an unincorporated association: Provided, however, that the application may be

signed by the applicant's authorized representative who shall indicate his title, such as plant manager, project engineer, etc.

(4) Information on the Commission's equipment authorization requirements can be obtained from the Internet at <https://www.fcc.gov/eas>.

(e) Technical test data submitted to the TCB and to the Commission shall be signed by the person who performed or supervised the tests. The person signing the test data shall attest to the accuracy of such data. The Commission or TCB may require the person signing the test data to submit a statement showing that they are qualified to make or supervise the required measurements.

(f) Signed, as used in this section, means an original handwritten signature; however, the Office of Engineering and Technology may allow signature by any symbol executed or adopted by the applicant or TCB with the intent that such symbol be a signature, including symbols formed by computer-generated electronic impulses.

[80 FR 33440, June 12, 2015]

§2.915 Grant of application.

(a) A Commission recognized TCB will grant an application for certification if it finds from an examination of the application and supporting data, or other matter which it may officially notice, that:

(1) The equipment is capable of complying with pertinent technical standards of the rule part(s) under which it is to be operated; and,

(2) A grant of the application would serve the public interest, convenience and necessity.

(b) Grants will be made in writing showing the effective date of the grant and any special condition(s) attaching to the grant.

(c) Certification shall not attach to any equipment, nor shall any equipment authorization be deemed effective, until the application has been granted.

(d) Grants will be from the date of publication on the Commission Web site and shall show any special condition(s) attaching to the grant. The official copy of the grant shall be maintained on the Commission Web site.

§ 2.917

(e) The grant shall identify the approving TCB and the Commission as the issuing authority.

(f) In cases of a dispute the Commission will be the final arbiter.

[39 FR 5919, Feb. 15, 1974, as amended at 48 FR 3621, Jan. 26, 1983; 62 FR 10470, Mar. 7, 1997; 63 FR 36598, July 7, 1998; 80 FR 33440, June 12, 2015]

§ 2.917 Dismissal of application.

(a) An application which is not in accordance with the provisions of this subpart may be dismissed.

(b) Any application, upon written request signed by the applicant or his attorney, may be dismissed prior to a determination granting or denying the authorization requested.

(c) If an applicant is requested to file additional documents or information and fails to submit the requested material within the specified time period, the application may be dismissed.

[39 FR 5919, Feb. 15, 1974, as amended at 62 FR 10470, Mar. 7, 1997; 80 FR 33441, June 12, 2015]

§ 2.919 Denial of application.

If the Commission is unable to make the findings specified in § 2.915(a), it will deny the application. Notification to the applicant will include a statement of the reasons for the denial.

§ 2.921 Hearing on application.

Whenever it is determined that an application for equipment authorization presents substantial factual questions relating to the qualifications of the applicant or the equipment (or the effects of the use thereof), the Commission may designate the application for hearing. A hearing on an application for an equipment authorization shall be conducted in the same manner as a hearing on a radio station application as set out in subpart B of part 1 of this chapter.

§ 2.923 Petition for reconsideration; application for review.

Persons aggrieved by virtue of an equipment authorization action may file with the Commission a petition for reconsideration or an application for review. Rules governing the filing of petitions for reconsideration and applications for review are set forth in

§§ 1.106 and 1.115, respectively, of this chapter.

§ 2.924 Marketing of electrically identical equipment having multiple trade names and models or type numbers under the same FCC Identifier.

The grantee of an equipment authorization may market devices having different model/type numbers or trade names without additional authorization, provided that such devices are electrically identical and the equipment bears an FCC Identifier validated by a grant of certification. A device will be considered to be electrically identical if no changes are made to the authorized device, or if the changes made to the device would be treated as class I permissive changes within the scope of § 2.1043(b)(1). Changes to the model number or trade name by anyone other than the grantee, or under the authorization of the grantee, shall be performed following the procedures in § 2.933.

[80 FR 33441, June 12, 2015]

§ 2.925 Identification of equipment.

(a) Each equipment covered in an application for equipment authorization shall bear a nameplate or label listing the following:

(1) FCC Identifier consisting of the two elements in the exact order specified in § 2.926. The FCC Identifier shall be preceded by the term FCC ID in capital letters on a single line, and shall be of a type size large enough to be legible without the aid of magnification.

(2) Any other statements or labeling requirements imposed by the rules governing the operation of the specific class of equipment, except that such statement(s) of compliance may appear on a separate label at the option of the applicant/grantee.

(3) Equipment subject only to registration will be identified pursuant to part 68 of this chapter.

(b) Any device subject to more than one equipment authorization procedure may be assigned a single FCC Identifier. However, a single FCC Identifier is required to be assigned to any device consisting of two or more sections assembled in a common enclosure, on a common chassis or circuit board, and

with common frequency controlling circuits. Devices to which a single FCC Identifier has been assigned shall be identified pursuant to paragraph (a) of this section.

(1) Separate FCC Identifiers may be assigned to a device consisting of two or more sections assembled in a common enclosure, but constructed on separate sub-units or circuit boards with independent frequency controlling circuits. The FCC Identifier assigned to any transmitter section shall be preceded by the term *TX FCC ID*, the FCC Identifier assigned to any receiver section shall be preceded by the term *RX FCC ID* and the identifier assigned to any remaining section(s) shall be preceded by the term *FCC ID*.

(2) Where telephone equipment subject to part 68 of this chapter, and a radiofrequency device subject to equipment authorization requirements are assembled in a common enclosure, the nameplate/label shall display the FCC Registration Number in the format specified in part 68 and the FCC Identifier in the format specified in paragraph (a) of this section.

(3) For a transceiver, the receiver portion of which is subject to verification pursuant to §15.101 of this chapter, the FCC Identifier required for the transmitter portion shall be preceded by the term *FCC ID*.

(c) [Reserved]

(d) In order to validate the grant of equipment authorization, the nameplate or label shall be permanently affixed to the equipment and shall be readily visible to the purchaser at the time of purchase.

(1) As used here, *permanently affixed* means that the required nameplate data is etched, engraved, stamped, indelibly printed, or otherwise permanently marked on a permanently attached part of the equipment enclosure. Alternatively, the required information may be permanently marked on a nameplate of metal, plastic, or other material fastened to the equipment enclosure by welding, riveting, etc., or with a permanent adhesive. Such a nameplate must be able to last the expected lifetime of the equipment in the environment in which the equipment will be operated and must not be readily detachable.

(2) As used here, *readily visible* means that the nameplate or nameplate data must be visible from the outside of the equipment enclosure. It is preferable that it be visible at all times during normal installation or use, but this is not a prerequisite for grant of equipment authorization.

(e) A software defined radio may be equipped with a means such as a user display screen to display the FCC identification number normally contained in the nameplate or label. The information must be readily accessible, and the user manual must describe how to access the electronic display.

(f) Where it is shown that a permanently affixed nameplate is not desirable or is not feasible, an alternative method of positively identifying the equipment may be used if approved by the Commission. The proposed alternative method of identification and the justification for its use must be included with the application for equipment authorization.

NOTE: As an example, a device intended to be implanted within the body of a test animal or person would probably require an alternate method of identification.

(g) The term *FCC ID* and the coded identification assigned by the Commission shall be in a size of type large enough to be readily legible, consistent with the dimensions of the equipment and its nameplate. However, the type size for the FCC Identifier is not required to be larger than eight-point.

[44 FR 17177, Mar. 21, 1979, as amended at 44 FR 55574, Sept. 27, 1979; 46 FR 21013, Apr. 8, 1981; 52 FR 21687, June 9, 1987; 54 FR 1698, Jan. 17, 1989; 62 FR 10470, Mar. 7, 1997; 66 FR 50840, Oct. 5, 2001; 77 FR 43536, July 25, 2012; 80 FR 33441, June 12, 2015]

§ 2.926 FCC identifier.

(a) A grant of certification will list the validated FCC Identifier consisting of the grantee code assigned by the FCC pursuant to paragraph (b) of this section, and the equipment product code assigned by the grantee pursuant to paragraph (c) of this section. See § 2.925.

(b) The grantee code assigned pursuant to paragraph (c) of this section is assigned permanently to applicants/grantees and is valid only for the party

§2.927

specified as the applicant/grantee in the code assignment(s).

(c) A grantee code may consist of Arabic numerals, capital letters, or other characters. The format for this code will be specified by the Commission's Office of Engineering and Technology. A prospective grantee or its authorized representative may receive a grantee code electronically via the Internet at <http://www.fcc.gov/eas>. The code may be obtained at any time prior to submittal of the application for equipment authorization. However, the fee required by §1.1103 of this chapter must be submitted and validated within 30 days of the issuance of the grantee code, or the code will be removed from the Commission's records and a new grantee code will have to be obtained.

(1) After assignment of a grantee code each grantee will continue to use the same grantee code for subsequent equipment authorization applications. In the event the grantee name is changed or ownership is transferred, the circumstances shall be reported to the Commission so that a new grantee code can be assigned, if appropriate. See §2.929(c) and (d) for additional information.

In the event the grantee name is changed or ownership is transferred, the circumstances shall be reported to the Commission so that a new grantee code can be assigned, if appropriate. See §§2.934 and 2.935 for additional information.

(2) [Reserved]

(d) The equipment product code assigned by the grantee shall consist of a series of Arabic numerals, capital letters or a combination thereof, and may include the dash or hyphen (-). The total of Arabic numerals, capital letters and dashes or hyphens shall not exceed 14 and shall be one which has not been previously used in conjunction with:

(1) The same grantee code, or

(2) An application denied pursuant to §2.919 of this chapter.

(e) No FCC Identifier may be used on equipment to be marketed unless that specific identifier has been validated by a grant of equipment certification. This shall not prohibit placement of an FCC identifier on a transceiver which includes a verified receiver subject to

47 CFR Ch. I (10–1–15 Edition)

§15.101 of this chapter, provided that the transmitter portion of such transceiver is covered by a valid grant of type acceptance or certification. The FCC Identifier is uniquely assigned to the grantee and may not be placed on the equipment without authorization by the grantee. See §2.803 for conditions applicable to the display at trade shows of equipment which has not been granted equipment authorization where such grant is required prior to marketing. Labelling of such equipment may include model or type numbers, but shall not include a purported FCC Identifier.

[44 FR 17179, Mar. 21, 1979, as amended at 46 FR 21014, Apr. 8, 1981; 52 FR 21687, June 9, 1987; 54 FR 1698, Jan. 17, 1989; 62 FR 10471, Mar. 7, 1997; 69 FR 54033, Sept. 7, 2004; 77 FR 43536, July 25, 2012; 80 FR 33441, June 12, 2015]

CONDITIONS ATTENDANT TO AN EQUIPMENT AUTHORIZATION

§2.927 Limitations on grants.

(a) A grant of certification is valid only when the FCC Identifier is permanently affixed on the device and remains until set aside, revoked, withdrawn, surrendered, or terminated.

(b) A grant of certification recognizes the determination that the equipment has been shown to be capable of compliance with the applicable technical standards if no unauthorized change is made in the equipment and if the equipment is properly maintained and operated. The issuance of a grant of equipment certification shall not be construed as a finding with respect to matters not encompassed by the Commission's rules, especially with respect to compliance with 18 U.S.C. 2512.

(c) No person shall, in any advertising matter, brochure, etc., use or make reference to an equipment authorization in a deceptive or misleading manner or convey the impression that such certification reflects more than a Commission-authorized determination that the device or product has been shown to be capable of compliance with the applicable technical standards of the Commission's rules.

[80 FR 33441, June 12, 2015]

Federal Communications Commission

§ 2.932

§ 2.929 Changes in name, address, ownership or control of grantee.

(a) An equipment authorization may not be assigned, exchanged or in any other way transferred to a second party, except as provided in this section.

(b) The grantee of an equipment authorization may license or otherwise authorize a second party to manufacture the equipment covered by the grant of the equipment authorization provided:

(1) The equipment manufactured by such second party bears the FCC Identifier as is set out in the grant of the equipment authorization.

NOTE TO PARAGRAPH (b)(1): Any change in the FCC Identifier desired as a result of such production or marketing agreement will require the filing of a new application for an equipment authorization as specified in § 2.933.

(2) The grantee of the equipment authorization shall continue to be responsible to the Commission for the equipment produced pursuant to such an agreement.

(c) Whenever there is a change in the name and/or address of the grantee of certification, notice of such change(s) shall be submitted to the Commission via the Internet at <https://apps.fcc.gov/eas> within 30 days after the grantee starts using the new name and/or address.

(d) In the case of transactions affecting the grantee, such as a transfer of control or sale to another company, mergers, or transfer of manufacturing rights, notice must be given to the Commission via the Internet at <https://apps.fcc.gov/eas> within 60 days after the consummation of the transaction. Depending on the circumstances in each case, the Commission may require new applications for certification. In reaching a decision the Commission will consider whether the acquiring party can adequately ensure and accept responsibility for continued compliance with the regulations. In general, new applications for each device will not be required. A single application for cer-

tification may be filed covering all the affected equipment.

[63 FR 36598, July 7, 1998, as amended at 69 FR 54033, Sept. 7, 2004; 80 FR 33441, June 12, 2015]

§ 2.931 Responsibility of the grantee.

In accepting a grant of an equipment authorization, the grantee warrants that each unit of equipment marketed under such grant and bearing the identification specified in the grant will conform to the unit that was measured and that the data (design and rated operational characteristics) filed with the application for certification continues to be representative of the equipment being produced under such grant within the variation that can be expected due to quantity production and testing on a statistical basis.

[63 FR 36598, July 7, 1998]

§ 2.932 Modification of equipment.

(a) A new application for an equipment authorization shall be filed whenever there is a change in the design, circuitry or construction of an equipment or device for which an equipment authorization has been issued, except as provided in paragraphs (b) through (d) of this section.

(b) Permissive changes may be made in certificated equipment, and equipment that was authorized under the former type acceptance procedure, pursuant to § 2.1043.

(c) Permissive changes may be made in equipment that was authorized under the former notification procedure without submittal of information to the Commission, unless the equipment is currently subject to authorization under the certification procedure. However, the grantee shall submit information documenting continued compliance with the pertinent requirements upon request.

(d) All requests for permissive changes must be accompanied by the anti-drug abuse certification required under § 1.2002 of this chapter.

[63 FR 36598, July 7, 1998, as amended at 66 FR 50840, Oct. 5, 2001; 70 FR 23039, May 4, 2005; 80 FR 33441, June 12, 2015]

§ 2.933

47 CFR Ch. I (10–1–15 Edition)

§ 2.933 Change in identification of equipment.

(a) A new application for certification shall be filed whenever there is a change in the FCC Identifier for the equipment with or without a change in design, circuitry or construction. However, a change in the model/type number or trade name performed in accordance with the provisions in § 2.924 of this chapter is not considered to be a change in identification and does not require additional authorization.

(b) An application filed pursuant to paragraph (a) of this section where no change in design, circuitry or construction is involved, need not be accompanied by a resubmission of equipment or measurement or test data customarily required with a new application, unless specifically requested. In lieu thereof, the applicant shall attach a statement setting out:

(1) The original identification used on the equipment prior to the change in identification.

(2) The date of the original grant of the equipment authorization.

(3) How the equipment bearing the modified identification differs from the original equipment.

(4) Whether the original test results continue to be representative of and applicable to the equipment bearing the changed identification.

(5) The photographs required by § 2.1033(b)(7) or (c)(12) showing the exterior appearance of the equipment, including the operating controls available to the user and the identification label. Photographs of the construction, the component placement on the chassis, and the chassis assembly are not required to be submitted unless specifically requested.

(c) If the change in the FCC Identifier also involves a change in design or circuitry which falls outside the purview of a permissive change described in § 2.1043, a complete application shall be filed pursuant to § 2.911.

[63 FR 36598, July 7, 1998, as amended at 80 FR 33441, June 12, 2015]

§ 2.937 Equipment defect and/or design change.

When a complaint is filed with the Commission concerning the failure of equipment subject to this chapter to

comply with pertinent requirements of the Commission's rules, and the Commission determines that the complaint is justified and arises out of an equipment fault attributable to the responsible party, the Commission may require the responsible party to investigate such complaint and report the results of such investigation to the Commission. The report shall also indicate what action if any has been taken or is proposed to be taken by the responsible party to correct the defect, both in terms of future production and with reference to articles in the possession of users, sellers and distributors.

[61 FR 31046, June 19, 1996]

§ 2.938 Retention of records.

(a) For each equipment subject to the Commission's equipment authorization standards, the responsible party shall maintain the records listed as follows:

(1) A record of the original design drawings and specifications and all changes that have been made that may affect compliance with the standards and the requirements of § 2.931.

(2) A record of the procedures used for production inspection and testing to ensure conformance with the standards and the requirements of § 2.931.

(3) A record of the test results that demonstrate compliance with the appropriate regulations in this chapter.

(b) The provisions of paragraph (a) of this section shall also apply to a manufacturer of equipment produced under the provisions of § 2.929(b). The retention of the records by the manufacturer under these circumstances shall satisfy the grantee's responsibility under paragraph (a) of this section.

(c) The records listed in paragraph (a) of this section shall be retained for one year for equipment subject to authorization under the certification procedure or former type acceptance procedure, or for two years for equipment subject to authorization under any other procedure, after the manufacture of said equipment has been permanently discontinued, or until the conclusion of an investigation or a proceeding if the responsible party (or, under paragraph (b) of this section, the manufacturer) is officially notified

Federal Communications Commission

§ 2.944

that an investigation or any other administrative proceeding involving its equipment has been instituted.

(d) If radio frequency equipment is modified by any party other than the original responsible party, and that party is not working under the authorization of the original responsible party, the party performing the modifications is not required to obtain the original design drawings specified in paragraph (a)(1) of this section. However, the party performing the modifications must maintain records showing the changes made to the equipment along with the records required in paragraphs (a)(3) of this section. A new equipment authorization may also be required. See, for example, §§ 2.909, 2.924, 2.933, and 2.1043.

[62 FR 10471, Mar. 7, 1997, as amended at 63 FR 36599, July 7, 1998]

§ 2.939 Revocation or withdrawal of equipment authorization.

(a) The Commission may revoke any equipment authorization:

(1) For false statements or representations made either in the application or in materials or response submitted in connection therewith or in records required to be kept by § 2.938.

(2) If upon subsequent inspection or operation it is determined that the equipment does not conform to the pertinent technical requirements or to the representations made in the original application.

(3) If it is determined that changes have been made in the equipment other than those authorized by the rules or otherwise expressly authorized by the Commission.

(4) Because of conditions coming to the attention of the Commission which would warrant it in refusing to grant an original application.

(b) Revocation of an equipment authorization shall be made in the same manner as revocation of radio station licenses.

(c) The Commission may withdraw any equipment authorization in the event of changes in its technical standards. The procedure to be followed will be set forth in the order promulgating such new technical standards (after appropriate rulemaking proceedings) and will provide a suitable amortization pe-

riod for equipment in hands of users and in the manufacturing process.

[39 FR 5919, Feb. 15, 1974, as amended at 51 FR 39535, Oct. 29, 1986]

§ 2.941 Availability of information relating to grants.

(a) Grants of equipment authorization, other than for receivers and equipment authorized for use under parts 15 or 18 of this chapter, will be publicly announced in a timely manner by the Commission. Information about the authorization of a device using a particular FCC Identifier may be obtained by contacting the Commission's Office of Engineering and Technology Laboratory.

(b) Information relating to equipment authorizations, such as data submitted by the applicant in connection with an authorization application, laboratory tests of the device, etc., shall be available in accordance with §§ 0.441 through 0.470 of this chapter.

[62 FR 10472, Mar. 7, 1997]

§ 2.944 Software defined radios.

(a) Manufacturers must take steps to ensure that only software that has been approved with a software defined radio can be loaded into the radio. The software must not allow the user to operate the transmitter with operating frequencies, output power, modulation types or other radio frequency parameters outside those that were approved. Manufacturers may use means including, but not limited to the use of a private network that allows only authenticated users to download software, electronic signatures in software or coding in hardware that is decoded by software to verify that new software can be legally loaded into a device to meet these requirements and must describe the methods in their application for equipment authorization.

(b) Any radio in which the software is designed or expected to be modified by a party other than the manufacturer and would affect the operating parameters of frequency range, modulation type or maximum output power (either radiated or conducted), or the circumstances under which the transmitter operates in accordance with Commission rules, must comply with

§ 2.945

47 CFR Ch. I (10–1–15 Edition)

the requirements in paragraph (a) of this section and must be certified as a software defined radio.

(c) Applications for certification of software defined radios must include a high level operational description or flow diagram of the software that controls the radio frequency operating parameters.

[70 FR 23039, May 4, 2005]

§ 2.945 Submission of equipment for testing and equipment records.

(a) *Prior to certification.* (1) The Commission or a Telecommunication Certification Body (TCB) may require an applicant for certification to submit one or more sample units for measurement at the Commission's laboratory or the TCB.

(2) If the applicant fails to provide a sample of the equipment, the TCB may dismiss the application without prejudice.

(3) In the event the applicant believes that shipment of the sample to the Commission's laboratory or the TCB is impractical because of the size or weight of the equipment, or the power requirement, or for any other reason, the applicant may submit a written explanation why such shipment is impractical and should not be required.

(4) The Commission may take administrative sanctions against a grantee of certification that fails to respond within 21 days to a Commission or TCB request for an equipment sample, such as suspending action on applications for equipment authorization submitted by that party while the matter is being resolved. The Commission may consider extensions of time upon submission of a showing of good cause.

(b) *Subsequent to equipment authorization.* (1) The Commission may request that the responsible party or any other party marketing equipment subject to this chapter submit a sample of the equipment, or provide a voucher for the equipment to be obtained from the marketplace, to determine the extent to which production of such equipment continues to comply with the data filed by the applicant or on file with the responsible party for equipment subject to verification or Declaration of Conformity. The Commission may request that a sample or voucher to obtain a

product from the marketplace be submitted to the Commission, or in the case of equipment subject to certification, to the TCB that certified the equipment.

(2) A TCB may request samples of equipment that it has certified from the grantee of certification, or request a voucher to obtain a product from the marketplace, for the purpose of performing post-market surveillance as described in § 2.962. TCBs must document their sample requests to show the date they were sent and provide this documentation to the Commission upon request.

(3) The cost of shipping the equipment to the Commission's laboratory and back to the party submitting the equipment shall be borne by the party from which the Commission requested the equipment.

(4) In the event a party believes that shipment of the sample to the Commission's laboratory or the TCB is impractical because of the size or weight of the equipment, or the power requirement, or for any other reason, that party may submit a written explanation why such shipment is impractical and should not be required.

(5) Failure of a responsible party or other party marketing equipment subject to this chapter to comply with a request from the Commission or TCB for equipment samples or vouchers within 21 days may be cause for actions such as suspending action on applications for certification submitted by a grantee or forfeitures pursuant to § 1.80 of this chapter. The Commission or TCB requesting the sample may consider extensions of time upon submission of a showing of good cause.

(c) *Submission of records.* Upon request by the Commission, each responsible party shall submit copies of the records required by §§ 2.938, 2.955, and 2.1075 to the Commission. Failure of a responsible party or other party marketing equipment subject to this chapter to comply with a request from the Commission for records within 21 days may be cause for forfeiture, pursuant to § 1.80 of this chapter. The Commission may consider extensions of time upon submission of a showing of good cause.

Federal Communications Commission

§ 2.948

(d) *Inspection by the Commission.* Upon request by the Commission, each responsible party shall make its manufacturing plant and facilities available for inspection.

[80 FR 33442, June 12, 2015]

§ 2.947 Measurement procedure.

(a) Test data must be measured in accordance with the following standards or measurement procedures:

(1) Those set forth in bulletins or reports prepared by the Commission's Office of Engineering and Technology. These will be issued as required, and specified in the particular part of the rules where applicable.

(2) Those acceptable to the Commission and published by national engineering societies such as the Electronic Industries Association, the Institute of Electrical and Electronic Engineers, Inc., and the American National Standards Institute.

(3) Any measurement procedure acceptable to the Commission may be used to prepare data demonstrating compliance with the requirements of this chapter.

(b) Information submitted pursuant to paragraph (a) of this section shall completely identify the specific standard or measurement procedure used.

(c) In the case of equipment requiring measurement procedures not specified in the references set forth in paragraphs (a) (1) and (2) of this section, the applicant shall submit a detailed description of the measurement procedures actually used.

(d) A listing of the test equipment used shall be submitted.

(e) If deemed necessary, additional information may be required concerning the measurement procedures employed in obtaining the data submitted for equipment authorization purposes.

[42 FR 44987, Sept. 8, 1977, as amended at 44 FR 39181, July 5, 1979; 51 FR 12616, Apr. 14, 1986; 80 FR 33442, June 12, 2015]

§ 2.948 Measurement facilities.

(a) Equipment authorized under the certification or Declaration of Conformity (DoC) procedure shall be tested at a laboratory that is accredited in ac-

cordance with paragraph (e) of this section.

(b) A laboratory that makes measurements of equipment subject to an equipment authorization under the certification, DoC or verification procedure shall compile a description of the measurement facilities employed.

(1) The description of the measurement facilities shall contain the following information:

(i) Location of the test site.

(ii) Physical description of the test site accompanied by photographs that clearly show the details of the test site.

(iii) A drawing showing the dimensions of the site, physical layout of all supporting structures, and all structures within 5 times the distance between the measuring antenna and the device being measured.

(iv) Description of structures used to support the device being measured and the test instrumentation.

(v) List of measuring equipment used.

(vi) Information concerning the calibration of the measuring equipment, *i.e.*, the date the equipment was last calibrated and how often the equipment is calibrated.

(vii) For a measurement facility that will be used for testing radiated emissions, a plot of site attenuation data taken pursuant to paragraph (d) of this section.

(2) The description of the measurement facilities shall be provided to a laboratory accreditation body upon request.

(3) The description of the measurement facilities shall be retained by the party responsible for verification of equipment and provided to the Commission upon request.

(i) The party responsible for verification of equipment may rely upon the description of the measurement facilities retained by an independent laboratory that performed the tests. In this situation, the party responsible for verification of the equipment is not required to retain a duplicate copy of the description of the measurement facilities.

(ii) No specific site calibration data is required for equipment that is

verified for compliance based on measurements performed at the installation site of the equipment. The description of the measurement facilities may be retained at the site at which the measurements were performed.

(c) The Commission will maintain a list of accredited laboratories that it has recognized. The Commission will make publicly available a list of those laboratories that have indicated a willingness to perform testing for the general public. Inclusion of a facility on the Commission's list does not constitute Commission endorsement of that facility. In order to be included on this list, the accrediting organization (or Designating Authority in the case of foreign laboratories) must submit the information listed below to the Commission's laboratory:

(1) Laboratory name, location of test site(s), mailing address and contact information;

(2) Name of accrediting organization;

(3) Scope of laboratory accreditation;

(4) Date of expiration of accreditation;

(5) Designation number;

(6) FCC Registration Number (FRN);

(7) A statement as to whether or not the laboratory performs testing on a contract basis;

(8) For laboratories outside the United States, the name of the mutual recognition agreement or arrangement under which the accreditation of the laboratory is recognized;

(9) Other information as requested by the Commission.

(d) When the measurement method used requires the testing of radiated emissions on a validated test site, the site attenuation must comply with the requirements of Sections 5.4.4 through 5.5 of the following procedure: ANSI C63.4-2014 (incorporated by reference, see §2.910). Measurement facilities used to make radiated emission measurements from 30 MHz to 1 GHz shall comply with the site validation requirements in ANSI C63.4-2014 (clause 5.4.4) and for radiated emission measurements from 1 GHz to 40 GHz shall comply with the site validation requirement of ANSI C63.4-2014 (clause 5.5.1 a) 1), such that the site validation criteria called out in CISPR 16-1-4:2010-04 (incorporated by reference, see §2.910)

is met. Test site revalidation shall occur on an interval not to exceed three years.

(e) A laboratory that has been accredited with a scope covering the measurements required for the types of equipment that it will test shall be deemed competent to test and submit test data for equipment subject to verification, Declaration of Conformity, and certification. Such a laboratory shall be accredited by a Commission recognized accreditation organization based on the International Organization for Standardization/International Electrotechnical Commission International Standard ISO/IEC 17025, (incorporated by reference, see §2.910). The organization accrediting the laboratory must be recognized by the Commission's Office of Engineering and Technology, as indicated in §0.241 of this chapter, to perform such accreditation based on International Standard ISO/IEC 17011 (incorporated by reference, see §2.910). The frequency for reassessment of the test facility and the information that is required to be filed or retained by the testing party shall comply with the requirements established by the accrediting organization, but shall occur on an interval not to exceed two years.

(f) The accreditation of a laboratory located outside of the United States, or its possessions, will be acceptable only under one of the following conditions:

(1) If the accredited laboratory has been designated by a foreign Designating Authority and recognized by the Commission under the terms of a government-to-government Mutual Recognition Agreement/Arrangement (MRA); or

(2) If the laboratory is located in a country that does not have an MRA with the United States, then it must be accredited by an organization recognized by the Commission under the provisions of §2.949 for performing accreditations in the country where the laboratory is located.

[80 FR 33442, June 12, 2015]

§2.949 Recognition of laboratory accreditation bodies.

(a) A party wishing to become a laboratory accreditation body recognized by OET must submit a written request

to the Chief of OET requesting such recognition. OET will make a determination based on the information provided in support of the request for recognition.

(b) Applicants shall provide the following information as evidence of their credentials and qualifications to perform accreditation of laboratories that test equipment to Commission requirements, consistent with the requirements of § 2.948(e). OET may request additional information, or showings, as needed, to determine the applicant's credentials and qualifications.

(1) Successful completion of an ISO/IEC 17011 (incorporated by reference, see § 2.910) peer review, such as being a signatory to an accreditation agreement that is acceptable to the Commission.

(2) Experience with the accreditation of electromagnetic compatibility (EMC), radio and telecommunications testing laboratories to ISO/IEC 17025 (incorporated by reference, see § 2.910).

(3) Accreditation personnel/assessors with specific technical experience on the Commission equipment authorization rules and requirements.

(4) Procedures and policies developed for the accreditation of testing laboratories for FCC equipment authorization programs.

[80 FR 33443, June 12, 2015]

§ 2.950 Transition periods.

(a) As of July 13, 2015 the Commission will no longer accept applications for Commission issued grants of equipment certification.

(b) Prior to September 15, 2015 a TCB shall be accredited to either ISO/IEC Guide 65 or ISO/IEC 17065 (incorporated by reference, see § 2.910). On or after September 15, 2015 a TCB shall be accredited to ISO/IEC 17065.

(c) Prior to September 15, 2015 an organization accrediting the prospective telecommunication certification body shall be capable of meeting the requirements and conditions of ISO/IEC Guide 61 or ISO/IEC 17011 (incorporated by reference, see § 2.910). On or after September 15, 2015 an organization accrediting the prospective telecommunication certification body shall be capable of meeting the requirements and conditions of ISO/IEC 17011.

(d) Prior to September 15, 2015 an organization accrediting the prospective accredited testing laboratory shall be capable of meeting the requirements and conditions of ISO/IEC Guide 58 or ISO/IEC 17011. On or after September 15, 2015 an organization accrediting the prospective accredited testing laboratory shall be capable of meeting the requirements and conditions of ISO/IEC 17011.

(e) The Commission will no longer accept applications for § 2.948 test site listing as of July 13, 2015. Laboratories that are listed by the Commission under the § 2.948 process will remain listed until the sooner of their expiration date or July 13, 2016 and may continue to submit test data in support of certification applications for October 13, 2016. Laboratories with an expiration date before July 13, 2016 may request the Commission to extend their expiration date to July 13, 2016.

(f) Measurement facilities used to make radiated emission measurements from 1 GHz to 40 GHz shall comply with the site validation option of ANSI C63.4-2014, (clause 5.5.1a)1) which references CISPR 16-1-4:2010-04 (incorporated by reference, see § 2.910) by July 13, 2018.

(g) Measurements for intentional radiators subject to part 15 of this chapter are to be made using the procedures in ANSI C63.10-2013 (incorporated by reference, see § 2.910) by July 13, 2016.

(h) Measurements for unintentional radiators are to be made using the procedures in ANSI C63.4, except clauses 4.5.3, 4.6, 6.2.13, 8.2.2, 9, and 13 (incorporated by reference, see § 2.910), by July 13, 2016.

[80 FR 33443, June 12, 2015]

VERIFICATION

AUTHORITY: Sections 2.951 through 2.957 are issued under secs. 4, 303, 307, 48 Stat., as amended, 1066, 1082, 1083; 47 U.S.C. 154, 303, 307.

SOURCE: Sections 2.951 through 2.957 appear at 46 FR 23249, Apr. 24, 1981, unless otherwise noted.

§ 2.951 Cross reference.

The provisions of § 2.901, *et seq.*, shall apply to equipment subject to verification.

§ 2.952

47 CFR Ch. I (10–1–15 Edition)

§ 2.952 Limitation on verification.

(a) Verification signifies that the manufacturer or importer has determined that the equipment has been shown to be capable of compliance with the applicable technical standards if no unauthorized change is made in the equipment and if the equipment is properly maintained and operated. Compliance with these standards shall not be construed to be a finding by the manufacturer or importer with respect to matters not encompassed by the Commission's rules.

(b) Verification of the equipment by the manufacturer or importer is effective until a termination date is otherwise established by the Commission.

(c) No person shall, in any advertising matter, brochure, etc., use or make reference to a verification in a deceptive or misleading manner or convey the impression that such verification reflects more than a determination by the manufacturer or importer that the device or product has been shown to be capable of compliance with the applicable technical standards of the Commission's rules.

§ 2.953 Responsibility for compliance.

(a) In verifying compliance, the responsible party, as defined in § 2.909 warrants that each unit of equipment marketed under the verification procedure will be identical to the unit tested and found acceptable with the standards and that the records maintained by the responsible party continue to reflect the equipment being produced under such verification within the variation that can be expected due to quantity production and testing on a statistical basis.

(b) The importer of equipment subject to verification may, upon receiving a written statement from the manufacturer that the equipment complies with the appropriate technical standards, rely on the manufacturer or independent testing agency to verify compliance. The test records required by § 2.955 however should be in the English language and made available to the Commission upon a reasonable request, in accordance with § 2.945.

(c) In the case of transfer of control of equipment, as in the case of sale or merger of the grantee, the new manu-

facturer or importer shall bear the responsibility of continued compliance of the equipment.

(d) Verified equipment shall be reverified if any modification or change adversely affects the emanation characteristics of the modified equipment. The party designated in § 2.909 bears responsibility for continued compliance of subsequently produced equipment.

[39 FR 5919, Feb. 15, 1974, as amended at 62 FR 10472, Mar. 7, 1997; 80 FR 33444, June 12, 2015]

§ 2.954 Identification.

Devices subject only to verification shall be uniquely identified by the person responsible for marketing or importing the equipment within the United States. However, the identification shall not be of a format which could be confused with the FCC Identifier required on certified, notified or type accepted equipment. The importer or manufacturer shall maintain adequate identification records to facilitate positive identification for each verified device.

[62 FR 10472, Mar. 7, 1997]

§ 2.955 Retention of records.

(a) For each equipment subject to verification, the responsible party, as shown in § 2.909 shall maintain the records listed as follows:

(1) A record of the original design drawings and specifications and all changes that have been made that may affect compliance with the requirements of § 2.953.

(2) A record of the procedures used for production inspection and testing (if tests were performed) to insure the conformance required by § 2.953. (Statistical production line emission testing is not required.)

(3) A record of the measurements made on an appropriate test site that demonstrates compliance with the applicable regulations in this chapter. The record shall:

(i) Indicate the actual date all testing was performed;

(ii) State the name of the test laboratory, company, or individual performing the verification testing. The

Federal Communications Commission

§ 2.960

Commission may request additional information regarding the test site, the test equipment or the qualifications of the company or individual performing the verification tests;

(iii) Contain a description of how the device was actually tested, identifying the measurement procedure and test equipment that was used;

(iv) Contain a description of the equipment under test (EUT) and support equipment connected to, or installed within, the EUT;

(v) Identify the EUT and support equipment by trade name and model number and, if appropriate, by FCC Identifier and serial number;

(vi) Indicate the types and lengths of connecting cables used and how they were arranged or moved during testing;

(vii) Contain at least two drawings or photographs showing the test set-up for the highest line conducted emission and showing the test set-up for the highest radiated emission. These drawings or photographs must show enough detail to confirm other information contained in the test report. Any photographs used must be focused originals without glare or dark spots and must clearly show the test configuration used;

(viii) List all modifications, if any, made to the EUT by the testing company or individual to achieve compliance with the regulations in this chapter;

(ix) Include all of the data required to show compliance with the appropriate regulations in this chapter; and

(x) Contain, on the test report, the signature of the individual responsible for testing the product along with the name and signature of an official of the responsible party, as designated in § 2.909.

(4) For equipment subject to the provisions in part 15 of this chapter, the records shall indicate if the equipment was verified pursuant to the transition provisions contained in § 15.37 of this chapter.

(b) The records listed in paragraph (a) of this section shall be retained for two years after the manufacture of said equipment item has been permanently discontinued, or until the conclusion of an investigation or a proceeding if the manufacturer or importer is officially

notified that an investigation or any other administrative proceeding involving his equipment has been instituted.

[54 FR 17713, Apr. 25, 1989, as amended at 62 FR 10472, Mar. 7, 1997]

TELECOMMUNICATION CERTIFICATION BODIES (TCBs)

§ 2.960 Recognition of Telecommunication Certification Bodies (TCBs).

(a) The Commission may recognize Telecommunication Certification Bodies (TCBs) which have been designated according to requirements of paragraph (b) or (c) of this section to issue grants of certification as required under this part. Certification of equipment by a TCB shall be based on an application with all the information specified in this part. The TCB shall review the application to determine compliance with the Commission's requirements and shall issue a grant of equipment certification in accordance with § 2.911.

(b) In the United States, TCBs shall be accredited and designated by the National Institute of Standards and Technology (NIST) under its National Voluntary Conformity Assessment Evaluation (NVCASE) program, or other recognized programs based on ISO/IEC 17065 (incorporated by reference, see § 2.910) to comply with the Commission's qualification criteria for TCBs. NIST may, in accordance with its procedures, allow other appropriately qualified accrediting bodies to accredit TCBs. TCBs shall comply with the requirements in § 2.962 of this part.

(c) In accordance with the terms of an effective bilateral or multilateral mutual recognition agreement or arrangement (MRA) to which the United States is a party, bodies outside the United States shall be permitted to authorize equipment in lieu of the Commission. A body in an MRA partner economy may authorize equipment to U.S. requirements only if that economy permits bodies in the United States to authorize equipment to its requirements. The authority designating these telecommunication certification bodies shall meet the following criteria.

§ 2.962

47 CFR Ch. I (10–1–15 Edition)

(1) The organization accrediting the prospective telecommunication certification body shall be capable of meeting the requirements and conditions of ISO/IEC 17011 (incorporated by reference, see § 2.910).

(2) The organization assessing the telecommunication certification body shall appoint a team of qualified experts to perform the assessment covering all of the elements within the scope of accreditation. For assessment of telecommunications equipment, the areas of expertise to be used during the assessment shall include, but not be limited to, electromagnetic compatibility and telecommunications equipment (wired and wireless).

[64 FR 4995, Feb. 2, 1999, as amended at 80 FR 33444, June 12, 2015]

§ 2.962 Requirements for Telecommunication Certification Bodies.

(a) Telecommunication certification bodies (TCBs) designated by NIST, or designated by another authority pursuant to an bilateral or multilateral mutual recognition agreement or arrangement to which the United States is a party, shall comply with the requirements of this section.

(b) *Certification methodology.* (1) The certification system shall be based on type testing as identified in ISO/IEC 17065 (incorporated by reference, see § 2.910).

(2) Certification shall normally be based on testing no more than one unmodified representative sample of each product type for which certification is sought. Additional samples may be requested if clearly warranted, such as when certain tests are likely to render a sample inoperative.

(c) *Criteria for designation.* (1) To be designated as a TCB under this section, an entity shall, by means of accreditation, meet all the appropriate specifications in ISO/IEC 17065 for the scope of equipment it will certify. The accreditation shall specify the group of equipment to be certified and the applicable regulations for product evaluation.

(2) The TCB shall demonstrate expert knowledge of the regulations for each product with respect to which the body seeks designation. Such expertise shall

include familiarity with all applicable technical regulations, administrative provisions or requirements, as well as the policies and procedures used in the application thereof.

(3) The TCB shall have the technical expertise and capability to test the equipment it will certify and shall also be accredited in accordance with ISO/IEC 17025 (incorporated by reference, see § 2.910) to demonstrate it is competent to perform such tests.

(4) The TCB shall demonstrate an ability to recognize situations where interpretations of the regulations or test procedures may be necessary. The appropriate key certification and laboratory personnel shall demonstrate knowledge of how to obtain current and correct technical regulation interpretations. The competence of the TCB shall be demonstrated by assessment. The general competence, efficiency, experience, familiarity with technical regulations and products covered by those technical regulations, as well as compliance with applicable parts of ISO/IEC 17025 and ISO/IEC 17065 shall be taken into consideration during assessment.

(5) A TCB shall participate in any consultative activities, identified by the Commission or NIST, to facilitate a common understanding and interpretation of applicable regulations.

(6) The Commission will provide public notice of the specific methods that will be used to accredit TCBs, consistent with these qualification criteria.

(7) A TCB shall be reassessed for continued accreditation on intervals not exceeding two years.

(d) *External resources.* (1) In accordance with the provisions of ISO/IEC 17065 the evaluation of a product, or a portion thereof, may be performed by bodies that meet the applicable requirements of ISO/IEC 17025 in accordance with the applicable provisions of ISO/IEC 17065 for external resources (outsourcing) and other relevant standards. Evaluation is the selection of applicable requirements and the determination that those requirements are met. Evaluation may be performed using internal TCB resources or external (outsourced) resources.

(2) A TCB shall not outsource review and certification decision activities.

(3) When external resources are used to provide the evaluation function, including the testing of equipment subject to certification, the TCB shall be responsible for the evaluation and shall maintain appropriate oversight of the external resources used to ensure reliability of the evaluation. Such oversight shall include periodic audits of products that have been tested and other activities as required in ISO/IEC 17065 when a certification body uses external resources for evaluation.

(e) *Recognition of a TCB.* (1)(i) The Commission will recognize as a TCB any organization in the United States that meets the qualification criteria and is accredited and designated by NIST or NIST's recognized accreditor as provided in § 2.960(b).

(ii) The Commission will recognize as a TCB any organization outside the United States that meets the qualification criteria and is designated pursuant to an bilateral or multilateral MRA as provided in § 2.960(c).

(2) The Commission will withdraw its recognition of a TCB if the TCB's designation or accreditation is withdrawn, if the Commission determines there is just cause for withdrawing the recognition, or if the TCB requests that it no longer hold its designation or recognition. The Commission will limit the scope of equipment that can be certified by a TCB if its accreditor limits the scope of its accreditation or if the Commission determines there is good cause to do so. The Commission will notify a TCB in writing of its intention to withdraw or limit the scope of the TCB's recognition and provide at least 60 days for the TCB to respond. In the case of a TCB designated and recognized pursuant to a bilateral or multilateral mutual recognition agreement or arrangement (MRA), the Commission shall consult with the Office of the United States Trade Representative (USTR), as necessary, concerning any disputes arising under an MRA for compliance with the Telecommunications Trade Act of 1988 (Section 1371-1382 of the Omnibus Trade and Competitiveness Act of 1988).

(3) The Commission will notify a TCB in writing when it has concerns or evi-

dence that the TCB is not certifying equipment in accordance with the Commission's rules and policies and request that it explain and correct any apparent deficiencies. The Commission may require that all applications for the TCB be processed under the pre-approval guidance procedure in § 2.964 for at least 30 days, and will provide a TCB with 30 days' notice of its intent to do so unless good cause exists for providing shorter notice. The Commission may request that a TCB's Designating Authority or accreditation body investigate and take appropriate corrective actions as required, and the Commission may initiate action to limit or withdraw the recognition of the TCB as described in § 2.962(e)(2).

(4) If the Commission withdraws its recognition of a TCB, all certifications issued by that TCB will remain valid unless specifically set aside or revoked by the Commission under paragraph (f)(5) of this section.

(5) A list of recognized TCBs will be published by the Commission.

(f) *Scope of responsibility.* (1) A TCB shall certify equipment in accordance with the Commission's rules and policies.

(2) A TCB shall accept test data from any Commission-recognized accredited test laboratory, subject to the requirements in ISO/IEC 17065 and shall not unnecessarily repeat tests.

(3) A TCB may establish and assess fees for processing certification applications and other Commission-required tasks.

(4) A TCB may only act on applications that it has received or which it has issued a grant of certification.

(5) A TCB shall dismiss an application which is not in accordance with the provisions of this subpart or when the applicant requests dismissal, and may dismiss an application if the applicant does not submit additional information or test samples requested by the TCB.

(6) Within 30 days of the date of grant of certification the Commission or TCB issuing the grant may set aside a grant of certification that does not comply with the requirements or upon the request of the applicant. A TCB shall notify the applicant and the Commission when a grant is set aside. After 30 days,

§2.964

47 CFR Ch. I (10–1–15 Edition)

the Commission may revoke a grant of certification through the procedures in §2.939.

(7) A TCB shall follow the procedures in §2.964 of this part for equipment on the pre-approval guidance list.

(8) A TCB shall supply an electronic copy of each certification application and all necessary exhibits to the Commission prior to grant or dismissal of the application. Where appropriate, the application must be accompanied by a request for confidentiality of any material that may qualify for confidential treatment under the Commission's rules.

(9) A TCB shall grant or dismiss each certification application through the Commission's electronic filing system.

(10) A TCB may not:

- (i) Grant a waiver of the rules;
- (ii) Take enforcement actions; or
- (iii) Authorize a transfer of control of a grantee.

(11) All TCB actions are subject to Commission review.

(g) *Post-market surveillance requirements.* (1) In accordance with ISO/IEC 17065 a TCB shall perform appropriate post-market surveillance activities. These activities shall be based on type testing a certain number of samples of the total number of product types which the certification body has certified.

(2) The Chief of the Office of Engineering and Technology (OET) has delegated authority under §0.241(g) of this chapter to develop procedures that TCBs will use for performing post-market surveillance. OET will publish a document on TCB post-market surveillance requirements, and this document will provide specific information such as the number and types of samples that a TCB must test.

(3) OET may request that a grantee of equipment certification submit a sample directly to the TCB that performed the original certification for evaluation. Any equipment samples requested by the Commission and tested by a TCB will be counted toward the minimum number of samples that the TCB must test.

(4) TCBs may request samples of equipment that they have certified directly from the grantee of certification in accordance with §2.945.

(5) If during post market surveillance of a certified product, a TCB determines that a product fails to comply with the technical regulations for that product, the TCB shall immediately notify the grantee and the Commission in writing of its findings. The grantee shall provide a report to the TCB describing the actions taken to correct the situation, and the TCB shall provide a report of these actions to the Commission within 30 days.

(6) TCBs shall submit periodic reports to OET of their post-market surveillance activities and findings in the format and by the date specified by OET.

[80 FR 33444, June 12, 2015]

§2.964 Pre-approval guidance procedure for Telecommunication Certification Bodies.

(a) The Commission will publish a "Pre-approval Guidance List" identifying the categories of equipment or types of testing for which Telecommunication Certification Bodies (TCBs) must request guidance from the Commission before approving equipment on the list.

(b) TCBs shall use the following procedure for approving equipment on the Commission's pre-approval guidance list.

(1) A TCB shall perform an initial review of the application and determine the issues that require guidance from the Commission. The TCB shall electronically submit the relevant exhibits to the Commission along with a specific description of the pertinent issues.

(2) The TCB shall complete the review of the application in accordance with the Commission's guidance.

(3) The Commission may request and test a sample of the equipment before the application can be granted.

(4) The TCB shall electronically submit the application and all exhibits to the Commission along with a request to grant the application.

(5) The Commission will give its concurrence for the TCB to grant the application if it determines that the equipment complies with the rules. The Commission will advise the TCB if additional information or equipment testing is required, or if the equipment

cannot be certified because it does not comply with the Commission's rules.

[80 FR 33445, June 12, 2015]

CERTIFICATION

§ 2.1031 Cross reference.

The general provisions of this subpart § 2.901 *et seq.* shall apply to applications for and grants of certification.

§ 2.1033 Application for certification.

(a) An application for certification shall be filed on FCC Form 731 with all questions answered. Items that do not apply shall be so noted.

(b) Applications for equipment operating under Parts 11, 15 and 18 of the rules shall be accompanied by a technical report containing the following information:

(1) The full name and mailing address of the manufacturer of the device and the applicant for certification.

(2) FCC identifier.

(3) A copy of the installation and operating instructions to be furnished the user. A draft copy of the instructions may be submitted if the actual document is not available. The actual document shall be furnished to the FCC when it becomes available.

(4) A brief description of the circuit functions of the device along with a statement describing how the device operates. This statement should contain a description of the ground system and antenna, if any, used with the device.

(5) A block diagram showing the frequency of all oscillators in the device. The signal path and frequency shall be indicated at each block. The tuning range(s) and intermediate frequency(ies) shall be indicated at each block. A schematic diagram is also required for intentional radiators.

(6) A report of measurements showing compliance with the pertinent FCC technical requirements. This report shall identify the test procedure used (e.g., specify the FCC test procedure, or industry test procedure that was used), the date the measurements were made, the location where the measurements were made, and the device that was tested (model and serial number, if available). The report shall include sample calculations showing how the

measurement results were converted for comparison with the technical requirements.

(7) A sufficient number of photographs to clearly show the exterior appearance, the construction, the component placement on the chassis, and the chassis assembly. The exterior views shall show the overall appearance, the antenna used with the device (if any), the controls available to the user, and the required identification label in sufficient detail so that the name and FCC identifier can be read. In lieu of a photograph of the label, a sample label (or facsimile thereof) may be submitted together with a sketch showing where this label will be placed on the equipment. Photographs shall be of size A4 (21 cm × 29.7 cm) or 8 × 10 inches (20.3 cm × 25.4 cm). Smaller photographs may be submitted provided they are sharp and clear, show the necessary detail, and are mounted on A4 (21 cm × 29.7 cm) or 8.5 × 11 inch (21.6 cm × 27.9 cm) paper. A sample label or facsimile together with the sketch showing the placement of this label shall be on the same size paper.

(8) If the equipment for which certification is being sought must be tested with peripheral or accessory devices connected or installed, a brief description of those peripherals or accessories. The peripheral or accessory devices shall be unmodified, commercially available equipment.

(9) For equipment subject to the provisions of part 15 of this chapter, the application shall indicate if the equipment is being authorized pursuant to the transition provisions in § 15.37 of this chapter.

(10) Applications for the certification of scanning receivers shall include a statement describing the methods used to comply with the design requirements of all parts of § 15.121 of this chapter. The application must specifically include a statement assessing the vulnerability of the equipment to possible modification and describing the design features that prevent the modification of the equipment by the user

§ 2.1033

to receive transmissions from the Cellular Radiotelephone Service. The application must also demonstrate compliance with the signal rejection requirement of § 15.121 of this chapter, including details on the measurement procedures used to demonstrate compliance.

(11) Applications for certification of transmitters operating within the 59.0–64.0 GHz band under part 15 of this chapter shall also be accompanied by an exhibit demonstrating compliance with the provisions of § 15.255(g) of this chapter.

(12) An application for certification of a software defined radio must include the information required by § 2.944.

(13) Applications for certification of U-NII devices in the 5.15–5.35 GHz and the 5.47–5.85 GHz bands must include a high level operational description of the security procedures that control the radio frequency operating parameters and ensure that unauthorized modifications cannot be made.

(14) Contain at least one drawing or photograph showing the test set-up for each of the required types of tests applicable to the device for which certification is requested. These drawings or photographs must show enough detail to confirm other information contained in the test report. Any photographs used must be focused originals without glare or dark spots and must clearly show the test configuration used.

(c) Applications for equipment other than that operating under parts 15, 11 and 18 of this chapter shall be accompanied by a technical report containing the following information:

(1) The full name and mailing address of the manufacturer of the device and the applicant for certification.

(2) FCC identifier.

(3) A copy of the installation and operating instructions to be furnished the user. A draft copy of the instructions may be submitted if the actual document is not available. The actual document shall be furnished to the FCC when it becomes available.

(4) Type or types of emission.

(5) Frequency range.

(6) Range of operating power values or specific operating power levels, and

47 CFR Ch. I (10–1–15 Edition)

description of any means provided for variation of operating power.

(7) Maximum power rating as defined in the applicable part(s) of the rules.

(8) The dc voltages applied to and dc currents into the several elements of the final radio frequency amplifying device for normal operation over the power range.

(9) Tune-up procedure over the power range, or at specific operating power levels.

(10) A schematic diagram and a description of all circuitry and devices provided for determining and stabilizing frequency, for suppression of spurious radiation, for limiting modulation, and for limiting power.

(11) A photograph or drawing of the equipment identification plate or label showing the information to be placed thereon.

(12) Photographs (8" × 10") of the equipment of sufficient clarity to reveal equipment construction and layout, including meters, if any, and labels for controls and meters and sufficient views of the internal construction to define component placement and chassis assembly. Insofar as these requirements are met by photographs or drawings contained in instruction manuals supplied with the certification request, additional photographs are necessary only to complete the required showing.

(13) For equipment employing digital modulation techniques, a detailed description of the modulation system to be used, including the response characteristics (frequency, phase and amplitude) of any filters provided, and a description of the modulating wavetrain, shall be submitted for the maximum rated conditions under which the equipment will be operated.

(14) The data required by §§ 2.1046 through 2.1057, inclusive, measured in accordance with the procedures set out in § 2.1041.

(15) The application for certification of an external radio frequency power amplifier under part 97 of this chapter need not be accompanied by the data required by paragraph (b)(14) of this section. In lieu thereof, measurements shall be submitted to show compliance with the technical specifications in subpart C of part 97 of this chapter and

such information as required by § 2.1060 of this part.

(16) An application for certification of an AM broadcast stereophonic exciter-generator intended for interfacing with existing certified, or formerly type accepted or notified transmitters must include measurements made on a complete stereophonic transmitter. The instruction book must include complete specifications and circuit requirements for interconnecting with existing transmitters. The instruction book must also provide a full description of the equipment and measurement procedures to monitor modulation and to verify that the combination of stereo exciter-generator and transmitter meet the emission limitations of § 73.44.

(17) Applications for certification required by § 25.129 of this chapter shall include any additional equipment test data required by that section.

(18) An application for certification of a software defined radio must include the information required by § 2.944.

(19) Applications for certification of equipment operating under part 27 of this chapter, that a manufacturer is seeking to certify for operation in the:

(i) 1755–1780 MHz, 2155–2180 MHz, or both bands shall include a statement indicating compliance with the pairing of 1710–1780 and 2110–2180 MHz specified in §§ 27.5(h) and 27.75 of this chapter.

(ii) 1695–1710 MHz, 1755–1780 MHz, or both bands shall include a statement indicating compliance with § 27.77 of this chapter.

(iii) 600 MHz band shall include a statement indicating compliance with § 27.75 of this chapter.

(20) Applications for certification of equipment operating under part 90 of this chapter and capable of operating on the 700 MHz interoperability channels (See § 90.531(b)(1) of this chapter) shall include a Compliance Assessment Program Supplier's Declaration of Conformity and Summary Test Report or, alternatively, shall include a document detailing how the applicant determined that its equipment complies with § 90.548 of this chapter and that the equipment is interoperable across vendors.

(21) Contain at least one drawing or photograph showing the test set-up for each of the required types of tests applicable to the device for which certification is requested. These drawings or photographs must show enough detail to confirm other information contained in the test report. Any photographs used must be focused originals without glare or dark spots and must clearly show the test configuration used.

(d) Applications for certification of equipment operating under part 20 of this chapter, that a manufacturer is seeking to certify as hearing aid compatible, as set forth in § 20.19 of this chapter, shall include a statement indicating compliance with the test requirements of § 20.19 of this chapter and indicating the appropriate M-rating and T-rating for the equipment. The manufacturer of the equipment shall be responsible for maintaining the test results.

(e) A single application may be filed for a composite system that incorporates devices subject to certification under multiple rule parts, however, the appropriate fee must be included for each device. Separate applications must be filed if different FCC Identifiers will be used for each device.

[63 FR 36599, July 7, 1998, as amended at 63 FR 42278, Aug. 7, 1998; 64 FR 22561, Apr. 27, 1999; 67 FR 42734, June 25, 2002; 68 FR 54175, Sept. 16, 2003; 68 FR 68545, Dec. 9, 2003; 69 FR 5709, Feb. 6, 2004; 70 FR 23039, May 4, 2005; 77 FR 41928, July 17, 2012; 78 FR 59850, Sept. 30, 2013; 79 FR 24578, May 1, 2014; 79 FR 32410, June 4, 2014; 79 FR 48536, Aug. 15, 2014; 79 FR 71325, Dec. 2, 2014; 80 FR 33446, June 12, 2015]

EFFECTIVE DATE NOTE: At 79 FR 71325, Dec. 2, 2014, § 2.1033 was amended by adding paragraph(20). This paragraph contains information collection and recordkeeping requirements and will not become effective until approval has been given by the Office of Management and Budget.

§ 2.1035 [Reserved]

§ 2.1041 Measurement procedure.

For equipment operating under parts 15 and 18, the measurement procedures are specified in the rules governing the particular device for which certification is requested. For equipment operating in the authorized radio services, measurements are required as specified in §§ 2.1046, 2.1047, 2.1049,

§ 2.1043

2.1051, 2.1053, 2.1055 and 2.1057. See also § 2.947.

[63 FR 36600, July 7, 1998]

§ 2.1043 Changes in certificated equipment.

(a) Except as provided in paragraph (b)(3) of this section, changes to the basic frequency determining and stabilizing circuitry (including clock or data rates), frequency multiplication stages, basic modulator circuit or maximum power or field strength ratings shall not be performed without application for and authorization of a new grant of certification. Variations in electrical or mechanical construction, other than these indicated items, are permitted provided the variations either do not affect the characteristics required to be reported to the Commission or the variations are made in compliance with the other provisions of this section. Changes to the software installed in a transmitter that do not affect the radio frequency emissions do not require any additional filings and may be made by parties other than the holder of the grant of certification.

(b) Three classes of permissive changes may be made in certificated equipment without requiring a new application for and grant of certification. None of the classes of changes shall result in a change in identification.

(1) A Class I permissive change includes those modifications in the equipment which do not degrade the characteristics reported by the manufacturer and accepted by the Commission when certification is granted. No filing is required for a Class I permissive change.

(2) A Class II permissive change includes those modifications which degrade the performance characteristics as reported to the Commission at the time of the initial certification. Such degraded performance must still meet the minimum requirements of the applicable rules. When a Class II permissive change is made by the grantee, the grantee shall provide complete information and the results of tests of the characteristics affected by such change. The modified equipment shall not be marketed under the existing grant of certification prior to acknowl-

47 CFR Ch. I (10–1–15 Edition)

edgement that the change is acceptable.

(3) A Class III permissive change includes modifications to the software of a software defined radio transmitter that change the frequency range, modulation type or maximum output power (either radiated or conducted) outside the parameters previously approved, or that change the circumstances under which the transmitter operates in accordance with Commission rules. When a Class III permissive change is made, the grantee shall provide a description of the changes and test results showing that the equipment complies with the applicable rules with the new software loaded, including compliance with the applicable RF exposure requirements. The modified software shall not be loaded into the equipment, and the equipment shall not be marketed with the modified software under the existing grant of certification, prior to acknowledgement that the change is acceptable. Class III changes are permitted only for equipment in which no Class II changes have been made from the originally approved device.

NOTE TO PARAGRAPH (b)(3): Any software change that degrades spurious and out-of-band emissions previously reported at the time of initial certification would be considered a change in frequency or modulation and would require a Class III permissive change or new equipment authorization application.

(4) Class I and Class II permissive changes may only be made by the holder of the grant of certification, except as specified.

(c) A grantee desiring to make a change other than a permissive change shall file a new application for certification accompanied by the required information as specified in this part and shall not market the modified device until the grant of certification has been issued. The grantee shall attach a description of the change(s) to be made and a statement indicating whether the change(s) will be made in all units (including previous production) or will be made only in those units produced after the change is authorized.

(d) A modification which results in a change in the identification of a device with or without change in circuitry requires a new application for, and grant

of certification. If the changes affect the characteristics required to be reported, a complete application shall be filed. If the characteristics required to be reported are not changed the abbreviated procedure of § 2.933 may be used.

(e) Equipment that has been certificated or formerly type accepted for use in the Amateur Radio Service pursuant to the requirements of part 97 of this chapter may be modified without regard to the conditions specified in paragraph (b) of this section, provided the following conditions are met:

(1) Any person performing such modifications on equipment used under part 97 of this chapter must possess a valid amateur radio operator license of the class required for the use of the equipment being modified.

(2) Modifications made pursuant to this paragraph are limited to equipment used at licensed amateur radio stations.

(3) Modifications specified or performed by equipment manufacturers or suppliers must be in accordance with the requirements set forth in paragraph (b) of this section.

(4) Modifications specified or performed by licensees in the Amateur Radio Service on equipment other than that at specific licensed amateur radio stations must be in accordance with the requirements set forth in paragraph (b) of this section.

(5) The station licensee shall be responsible for ensuring that modified equipment used at his station will comply with the applicable technical standards in part 97 of this chapter.

(f) For equipment other than that operating under parts 15 or 18 of this chapter, when a Class II permissive change is made by other than the grantee of certification, the information and data specified in paragraph (b)(2) of this section shall be supplied by the person making the change. The modified equipment shall not be operated under an authorization prior to acknowledgement that the change is acceptable.

(g) The interconnection of a certificated or formerly type accepted AM broadcast stereophonic exciter-generator with a certificated or formerly type accepted AM broadcast transmitter in accordance with the manu-

facturer's instructions and upon completion of measurements showing that the modified transmitter meets the emission limitation requirements of § 73.44 is defined as a Class I permissive change for compliance with this section.

(h) The interconnection of a multiplexing exciter with a certificated or formerly type accepted AM broadcast transmitter in accordance with the manufacturer's instructions without electrical or mechanical modification of the transmitter circuits and completion of equipment performance measurements showing the transmitter meets the minimum performance requirements applicable thereto is defined as a Class I permissive change for compliance with this section.

(i) The addition of TV broadcast subcarrier generators to a certificated or formerly type accepted TV broadcast transmitter or the addition of FM broadcast subcarrier generators to a type accepted FM broadcast transmitter, provided the transmitter exciter is designed for subcarrier operation without mechanical or electrical alterations to the exciter or other transmitter circuits.

(j) The addition of TV broadcast stereophonic generators to a certificated or formerly type accepted TV broadcast transmitter or the addition of FM broadcast stereophonic generators to a certificated or formerly type accepted FM broadcast transmitter, provided the transmitter exciter is designed for stereophonic sound operation without mechanical or electrical alterations to the exciter or other transmitter circuits.

(k) The addition of subscription TV encoding equipment for which the FCC has granted advance approval under the provisions of § 2.1400 in subpart M and § 73.644(c) of part 73 to a certificated or formerly type accepted transmitter is considered a Class I permissive change.

(l) Notwithstanding the provisions of this section, broadcast licensees or permittees are permitted to modify certificated or formerly type accepted

§ 2.1046

47 CFR Ch. I (10–1–15 Edition)

equipment pursuant to § 73.1690 of the FCC's rules.

[63 FR 36600, July 7, 1998, as amended at 66 FR 50840, Oct. 5, 2001; 70 FR 23040, May 4, 2005; 80 FR 33446, June 12, 2015]

§ 2.1046 Measurements required: RF power output.

(a) For transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in § 2.1033(c)(8). The electrical characteristics of the radio frequency load attached to the output terminals when this test is made shall be stated.

(b) For single sideband, independent sideband, and single channel, controlled carrier radiotelephone transmitters the procedure specified in paragraph (a) of this section shall be employed and, in addition, the transmitter shall be modulated during the test as follows. In all tests, the input level of the modulating signal shall be such as to develop rated peak envelope power or carrier power, as appropriate, for the transmitter.

(1) Single sideband transmitters in the A3A or A3J emission modes—by two tones at frequencies of 400 Hz and 1800 Hz (for 3.0 kHz authorized bandwidth), or 500 Hz and 2100 Hz (3.5 kHz authorized bandwidth), or 500 Hz and 2400 Hz (for 4.0 kHz authorized bandwidth), applied simultaneously, the input levels of the tones so adjusted that the two principal frequency components of the radio frequency signal produced are equal in magnitude.

(2) Single sideband transmitters in the A3H emission mode—by one tone at a frequency of 1500 Hz (for 3.0 kHz authorized bandwidth), or 1700 Hz (for 3.5 kHz authorized bandwidth), or 1900 Hz (for 4.0 kHz authorized bandwidth), the level of which is adjusted to produce a radio frequency signal component equal in magnitude to the magnitude of the carrier in this mode.

(3) As an alternative to paragraphs (b) (1) and (2) of this section other tones besides those specified may be used as modulating frequencies, upon a

sufficient showing of need. However, any tones so chosen must not be harmonically related, the third and fifth order intermodulation products which occur must fall within the –25 dB step of the emission bandwidth limitation curve, the seventh and ninth order intermodulation product must fall within the 35 dB step of the referenced curve and the eleventh and all higher order products must fall beyond the –35 dB step of the referenced curve.

(4) Independent sideband transmitters having two channels by 1700 Hz tones applied simultaneously in both channels, the input levels of the tones so adjusted that the two principal frequency components of the radio frequency signal produced are equal in magnitude.

(5) Independent sideband transmitters having more than two channels by an appropriate signal or signals applied to all channels simultaneously. The input signal or signals shall simulate the input signals specified by the manufacturer for normal operation.

(6) Single-channel controlled-carrier transmitters in the A3 emission mode—by a 2500 Hz tone.

(c) For measurements conducted pursuant to paragraphs (a) and (b) of this section, all calculations and methods used by the applicant for determining carrier power or peak envelope power, as appropriate, on the basis of measured power in the radio frequency load attached to the transmitter output terminals shall be shown. Under the test conditions specified, no components of the emission spectrum shall exceed the limits specified in the applicable rule parts as necessary for meeting occupied bandwidth or emission limitations.

[39 FR 5919, Feb. 15, 1974. Redesignated and amended at 63 FR 36599, July 7, 1998]

§ 2.1047 Measurements required: Modulation characteristics.

(a) *Voice modulated communication equipment.* A curve or equivalent data showing the frequency response of the audio modulating circuit over a range of 100 to 5000 Hz shall be submitted. For equipment required to have an audio low-pass filter, a curve showing the frequency response of the filter, or of all

circuitry installed between the modulation limiter and the modulated stage shall be submitted.

(b) *Equipment which employs modulation limiting.* A curve or family of curves showing the percentage of modulation versus the modulation input voltage shall be supplied. The information submitted shall be sufficient to show modulation limiting capability throughout the range of modulating frequencies and input modulating signal levels employed.

(c) *Single sideband and independent sideband radiotelephone transmitters which employ a device or circuit to limit peak envelope power.* A curve showing the peak envelope power output versus the modulation input voltage shall be supplied. The modulating signals shall be the same in frequency as specified in paragraph (c) of § 2.1049 for the occupied bandwidth tests.

(d) *Other types of equipment.* A curve or equivalent data which shows that the equipment will meet the modulation requirements of the rules under which the equipment is to be licensed.

[39 FR 5919, Feb. 15, 1974. Redesignated and amended at 63 FR 36599, July 7, 1998]

§ 2.1049 Measurements required: Occupied bandwidth.

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured under the following conditions as applicable:

(a) Radiotelegraph transmitters for manual operation when keyed at 16 dots per second.

(b) Other keyed transmitters—when keyed at the maximum machine speed.

(c) Radiotelephone transmitters equipped with a device to limit modulation or peak envelope power shall be modulated as follows. For single sideband and independent sideband transmitters, the input level of the modulating signal shall be 10 dB greater than that necessary to produce rated peak envelope power.

(1) Other than single sideband or independent sideband transmitters—when modulated by a 2500 Hz tone at an input level 16 dB greater than that nec-

essary to produce 50 percent modulation. The input level shall be established at the frequency of maximum response of the audio modulating circuit.

(2) Single sideband transmitters in A3A or A3J emission modes—when modulated by two tones at frequencies of 400 Hz and 1800 Hz (for 3.0 kHz authorized bandwidth), or 500 Hz and 2100 Hz (for 3.5 kHz authorized bandwidth), or 500 Hz and 2400 Hz (for 4.0 kHz authorized bandwidth), applied simultaneously. The input levels of the tones shall be so adjusted that the two principal frequency components of the radio frequency signal produced are equal in magnitude.

(3) Single sideband transmitters in the A3H emission mode—when modulated by one tone at a frequency of 1500 Hz (for 3.0 kHz authorized bandwidth), or 1700 Hz (for 3.5 kHz authorized bandwidth), or 1900 Hz (for 4.0 kHz authorized bandwidth), the level of which is adjusted to produce a radio frequency signal component equal in magnitude to the magnitude of the carrier in this mode.

(4) As an alternative to paragraphs (c) (2) and (3) of this section, other tones besides those specified may be used as modulating frequencies, upon a sufficient showing of need. However, any tones so chosen must not be harmonically related, the third and fifth order intermodulation products which occur must fall within the -25 dB step of the emission bandwidth limitation curve, the seventh and ninth order products must fall within the -35 dB step of the referenced curve and the eleventh and all higher order products must fall beyond the -35 dB step of the referenced curve.

(5) Independent sideband transmitters having two channels—when modulated by 1700 Hz tones applied simultaneously to both channels. The input levels of the tones shall be so adjusted that the two principal frequency components of the radio frequency signal produced are equal in magnitude.

(d) Radiotelephone transmitters without a device to limit modulation or peak envelope power shall be modulated as follows. For single sideband and independent sideband transmitters,

the input level of the modulating signal should be that necessary to produce rated peak envelope power.

(1) Other than single sideband or independent sideband transmitters—when modulated by a 2500 Hz tone of sufficient level to produce at least 85 percent modulation. If 85 percent modulation is unattainable, the highest percentage modulation shall be used.

(2) Single sideband transmitters in A3A or A3J emission modes—when modulated by two tones at frequencies of 400 Hz and 1800 Hz (for 3.0 kHz authorized bandwidth), or 500 Hz and 2100 Hz (for 3.5 kHz authorized bandwidth), or 500 Hz and 2400 Hz (for 4.0 kHz authorized bandwidth), applied simultaneously. The input levels of the tones shall be so adjusted that the two principal frequency components of the radio frequency signal produced are equal in magnitude.

(3) Single sideband transmitters in the A3H emission mode—when modulated by one tone at a frequency of 1500 Hz (for 3.0 kHz authorized bandwidth), or 1700 Hz (for 3.5 kHz authorized bandwidth), or 1900 Hz (for 4.0 kHz authorized bandwidth), the level of which is adjusted to produce a radio frequency signal component equal in magnitude to the magnitude of the carrier in this mode.

(4) As an alternative to paragraphs (d) (2) and (3) of this section, other tones besides those specified may be used as modulating frequencies, upon a sufficient showing of need. However any tones so chosen must not be harmonically related, the third and fifth order intermodulation products which occur must fall within the -25 dB step of the emission bandwidth limitation curve, the seventh and ninth order products must fall within the -35 dB step of the referenced curve and the eleventh and all higher order products must fall beyond the -35 dB step of the referenced curve.

(5) Independent sideband transmitters having two channels—when modulated by 1700 Hz tones applied simultaneously to both channels. The input levels of the tones shall be so adjusted that the two principal frequency components of the radio frequency signal produced are equal in magnitude.

(e) Transmitters for use in the Radio Broadcast Services:

(1) AM broadcast transmitters for monaural operation—when amplitude modulated 85% by a 7,500 Hz input signal.

(2) AM broadcast stereophonic operation—when the transmitter operated under any stereophonic modulation condition not exceeding 100% on negative peaks and tested under the conditions specified in §73.128 in part 73 of the FCC rules for AM broadcast stations.

(3) FM broadcast transmitter not used for multiplex operation—when modulated 85 percent by a 15 kHz input signal.

(4) FM broadcast transmitters for multiplex operation under Subsidiary Communication Authorization (SCA)—when carrier is modulated 70 percent by a 15 kHz main channel input signal, and modulated an additional 15 percent simultaneously by a 67 kHz subcarrier (unmodulated).

(5) FM broadcast transmitter for stereophonic operation—when modulated by a 15 kHz input signal to the main channel, a 15 kHz input signal to the stereophonic subchannel, and the pilot subcarrier simultaneously. The input signals to the main channel and stereophonic subchannel each shall produce 38 percent modulation of the carrier. The pilot subcarrier should produce 9 percent modulation of the carrier.

(6) Television broadcast monaural transmitters—when modulated 85% by a 15 kHz input signal.

(7) Television broadcast stereophonic sound transmitters—when the transmitter is modulated with a 15 kHz input signal to the main channel and the stereophonic subchannel, any pilot subcarrier(s) and any unmodulated auxiliary subcarrier(s) which may be provided. The signals to the main channel and the stereophonic subchannel must be representative of the system being tested and when combined with any pilot subcarrier(s) or other auxiliary subcarriers shall result in 85% deviation of the maximum specified aural carrier deviation.

(f) Transmitters for which peak frequency deviation (D) is determined in accordance with §2.202(f), and in which

the modulating baseband comprises more than 3 independent speech channels—when modulated by a test signal determined in accordance with the following:

(1) A modulation reference level is established for the characteristic baseband frequency. (Modulation reference level is defined as the average power level of a sinusoidal test signal delivered to the modulator input which provides the specified value of per-channel deviation.)

(2) Modulation reference level being established, the total rms deviation of the transmitter is measured when a test signal consisting of a band of random noise extending from below 20 kHz to the highest frequency in the baseband, is applied to the modulator input through any preemphasis networks used in normal service. The average power level of the test signal shall exceed the modulation reference level by the number of decibels determined using the appropriate formula in the following table:

Number of message circuits that modulate the transmitter	Number of dB by which the average power (P_{avg}) level test signal shall exceed the modulation reference level	Limits of P_{avg} (dBm0)
More than 3, but less than 12	To be specified by the equipment manufacturer subject to FCC approval.	
At least 12, but less than 60	$X + 2 \log_{10} N_c$	X: -2 to +2.6
At least 60, but less than 240	$X + 4 \log_{10} N_c$	X: -5.6 to -1.0
240 or more	$X + 10 \log_{10} N_c$	X: -19.6 to -15.0

Where X represents the average power in a message circuit in dBm0; N_c is the number of circuits in the multiplexed message load. P_{avg} shall be selected by the transmitter manufacturer and included with the technical data submitted with the application for type acceptance. (See § 2.202(e) in this chapter.)

(g) Transmitters in which the modulating baseband comprises more than three independent channels—when modulated by the full complement of signals for which the transmitter is rated. The level of modulation for each channel should be set to that prescribed in rule parts applicable to the services for which the transmitter is intended. If specific modulation levels are not set forth in the rules, the tests should provide the manufacturer's maximum rated condition.

(h) Transmitters employing digital modulation techniques—when modulated by an input signal such that its amplitude and symbol rate represent the maximum rated conditions under which the equipment will be operated. The signal shall be applied through any filter networks, pseudo-random generators or other devices required in normal service. Additionally, the occupied bandwidth shall be shown for operation with any devices used for modifying the spectrum when such devices are optional at the discretion of the user.

(i) Transmitters designed for other types of modulation—when modulated by an appropriate signal of sufficient amplitude to be representative of the type of service in which used. A de-

scription of the input signal should be supplied.

(Secs. 4, 303, 307, 48 Stat., as amended, 1066, 1082, 1083; 47 U.S.C. 154, 303, 307)

[39 FR 5919, Feb. 15, 1974, as amended at 39 FR 35664, Oct. 3, 1974; 47 FR 13164, Mar. 29, 1982; 48 FR 16493, Apr. 18, 1983; 49 FR 18105, Apr. 27, 1984. Redesignated at 63 FR 36599, July 7, 1998]

§ 2.1051 Measurements required: Spurious emissions at antenna terminals.

The radio frequency voltage or powers generated within the equipment and appearing on a spurious frequency shall be checked at the equipment output terminals when properly loaded with a suitable artificial antenna. Curves or equivalent data shall show the magnitude of each harmonic and other spurious emission that can be detected when the equipment is operated under the conditions specified in § 2.1049 as appropriate. The magnitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be specified.

[39 FR 5919, Feb. 15, 1974. Redesignated and amended at 63 FR 36599, July 7, 1998]

§ 2.1053

§ 2.1053 Measurements required: Field strength of spurious radiation.

(a) Measurements shall be made to detect spurious emissions that may be radiated directly from the cabinet, control circuits, power leads, or intermediate circuit elements under normal conditions of installation and operation. Curves or equivalent data shall be supplied showing the magnitude of each harmonic and other spurious emission. For this test, single sideband, independent sideband, and controlled carrier transmitters shall be modulated under the conditions specified in paragraph (c) of § 2.1049, as appropriate. For equipment operating on frequencies below 890 MHz, an open field test is normally required, with the measuring instrument antenna located in the far-field at all test frequencies. In the event it is either impractical or impossible to make open field measurements (e.g. a broadcast transmitter installed in a building) measurements will be accepted of the equipment as installed. Such measurements must be accompanied by a description of the site where the measurements were made showing the location of any possible source of reflections which might distort the field strength measurements. Information submitted shall include the relative radiated power of each spurious emission with reference to the rated power output of the transmitter, assuming all emissions are radiated from halfwave dipole antennas.

(b) The measurements specified in paragraph (a) of this section shall be made for the following equipment:

(1) Those in which the spurious emissions are required to be 60 dB or more below the mean power of the transmitter.

(2) All equipment operating on frequencies higher than 25 MHz.

(3) All equipment where the antenna is an integral part of, and attached directly to the transmitter.

(4) Other types of equipment as required, when deemed necessary by the Commission.

[39 FR 5919, Feb. 15, 1974. Redesignated and amended at 63 FR 36599, July 7, 1998]

47 CFR Ch. I (10-1-15 Edition)

§ 2.1055 Measurements required: Frequency stability.

(a) The frequency stability shall be measured with variation of ambient temperature as follows:

(1) From -30° to $+50^{\circ}$ centigrade for all equipment except that specified in paragraphs (a) (2) and (3) of this section.

(2) From -20° to $+50^{\circ}$ centigrade for equipment to be licensed for use in the Maritime Services under part 80 of this chapter, except for Class A, B, and S Emergency Position Indicating Radiobeacons (EPIRBS), and equipment to be licensed for use above 952 MHz at operational fixed stations in all services, stations in the Local Television Transmission Service and Point-to-Point Microwave Radio Service under part 21 of this chapter, equipment licensed for use aboard aircraft in the Aviation Services under part 87 of this chapter, and equipment authorized for use in the Family Radio Service under part 95 of this chapter.

(3) From 0° to $+50^{\circ}$ centigrade for equipment to be licensed for use in the Radio Broadcast Services under part 73 of this chapter.

(b) Frequency measurements shall be made at the extremes of the specified temperature range and at intervals of not more than 10° centigrade through the range. A period of time sufficient to stabilize all of the components of the oscillator circuit at each temperature level shall be allowed prior to frequency measurement. The short term transient effects on the frequency of the transmitter due to keying (except for broadcast transmitters) and any heating element cycling normally occurring at each ambient temperature level also shall be shown. Only the portion or portions of the transmitter containing the frequency determining and stabilizing circuitry need be subjected to the temperature variation test.

(c) In addition to all other requirements of this section, the following information is required for equipment incorporating heater type crystal oscillators to be used in mobile stations, for which type acceptance is first requested after March 25, 1974, except for battery powered, hand carried, portable equipment having less than 3 watts mean output power.

(1) Measurement data showing variation in transmitter output frequency from a cold start and the elapsed time necessary for the frequency to stabilize within the applicable tolerance. Tests shall be made after temperature stabilization at each of the ambient temperature levels; the lower temperature limit, 0° centigrade and + 30° centigrade with no primary power applied.

(2) Beginning at each temperature level specified in paragraph (c)(1) of this section, the frequency shall be measured within one minute after application of primary power to the transmitter and at intervals of no more than one minute thereafter until ten minutes have elapsed or until sufficient measurements are obtained to indicate clearly that the frequency has stabilized within the applicable tolerance, whichever time period is greater. During each test, the ambient temperature shall not be allowed to rise more than 10° centigrade above the respective beginning ambient temperature level.

(3) The elapsed time necessary for the frequency to stabilize within the applicable tolerance from each beginning ambient temperature level as determined from the tests specified in this paragraph shall be specified in the instruction book for the transmitter furnished to the user.

(4) When it is impracticable to subject the complete transmitter to this test because of its physical dimensions or power rating, only its frequency determining and stabilizing portions need be tested.

(d) The frequency stability shall be measured with variation of primary supply voltage as follows:

(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.

(2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.

(3) The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided. Effects on frequency of transmitter keying (except

for broadcast transmitters) and any heating element cycling at the nominal supply voltage and at each extreme also shall be shown.

(e) When deemed necessary, the Commission may require tests of frequency stability under conditions in addition to those specifically set out in paragraphs (a), (b), (c), and (d) of this section. (For example measurements showing the effect of proximity to large metal objects, or of various types of antennas, may be required for portable equipment.)

[39 FR 5919, Feb. 14, 1974, as amended at 51 FR 31304, Sept. 2, 1986; 56 FR 11682, Mar. 20, 1991. Redesignated at 63 FR 36599, July 7, 1998. 68 FR 68545, Dec. 9, 2003]

§ 2.1057 Frequency spectrum to be investigated.

(a) In all of the measurements set forth in §§ 2.1051 and 2.1053, the spectrum shall be investigated from the lowest radio frequency signal generated in the equipment, without going below 9 kHz, up to at least the frequency shown below:

(1) If the equipment operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

(2) If the equipment operates at or above 10 GHz and below 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.

(3) If the equipment operates at or above 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 200 GHz, whichever is lower.

(b) Particular attention should be paid to harmonics and subharmonics of the carrier frequency as well as to those frequencies removed from the carrier by multiples of the oscillator frequency. Radiation at the frequencies of multiplier stages should also be checked.

(c) The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

(d) Unless otherwise specified, measurements above 40 GHz shall be performed using a minimum resolution bandwidth of 1 MHz.

[61 FR 14502, Apr. 2, 1996. Redesignated and amended at 63 FR 36599, July 7, 1998]

§ 2.1060

47 CFR Ch. I (10–1–15 Edition)

§ 2.1060 Equipment for use in the amateur radio service.

(a) The general provisions of §§ 2.925, 2.1031, 2.1033, 2.1041, 2.1043, 2.1051, 2.1053 and 2.1057 shall apply to applications for, and grants of, certification for equipment operated under the requirements of part 97 of this chapter, the Amateur Radio Service.

(b) When performing the tests specified in §§ 2.1051 and 2.1053 of this part, the center of the transmitted bandwidth shall be within the operating frequency band by an amount equal to 50 percent of the bandwidth utilized for the tests. In addition, said tests shall be made on at least one frequency in each of the bands within which the equipment is capable of tuning.

(c) Certification of external radio frequency power amplifiers may be denied when denial would prevent the use of these amplifiers in services other than the Amateur Radio Service.

[63 FR 36601, July 7, 1998, as amended at 71 FR 66461, Nov. 15, 2006]

DECLARATION OF CONFORMITY

§ 2.1071 Cross reference.

The general provisions of this subpart, shall apply to equipment subject to a Declaration of Conformity.

[61 FR 31046, June 19, 1996]

§ 2.1072 Limitation on Declaration of Conformity.

(a) The Declaration of Conformity signifies that the responsible party, as defined in § 2.909, has determined that the equipment has been shown to comply with the applicable technical standards if no unauthorized change is made in the equipment and if the equipment is properly maintained and operated. Compliance with these standards shall not be construed to be a finding by the responsible party with respect to matters not encompassed by the Commission's rules.

(b) A Declaration of Conformity by the responsible party is effective until a termination date is otherwise established by the Commission.

(c) No person shall, in any advertising matter, brochure, etc., use or make reference to a Declaration of Conformity in a deceptive or mis-

leading manner or convey the impression that such a Declaration of Conformity reflects more than a determination by the responsible party that the device or product has been shown to be capable of complying with the applicable technical standards of the Commission's rules.

[61 FR 31046, June 19, 1996]

§ 2.1073 Responsibilities.

(a) The responsible party, as defined in § 2.909, must warrant that each unit of equipment marketed under a Declaration of Conformity is identical to the unit tested and found acceptable with the standards and that the records maintained by the responsible party continue to reflect the equipment being produced under the Declaration of Conformity within the variation that can be expected due to quantity production and testing on a statistical basis.

(b) The responsible party, if different from the manufacturer, may upon receiving a written statement from the manufacturer that the equipment complies with the appropriate technical standards, relies on the manufacturer or independent testing agency to determine compliance. However, the test records required by § 2.1075 shall be in the English language and shall be made available to the Commission upon a reasonable request in accordance with the provisions of § 2.945.

(c) In the case of transfer of control of the equipment, as in the case of sale or merger of the responsible party, the new responsible party shall bear the responsibility of continued compliance of the equipment.

(d) Equipment shall be retested to demonstrate continued compliance with the applicable technical standards if any modifications or changes that could adversely affect the emanation characteristics of the equipment are made by the responsible party. The responsible party bears responsibility for the continued compliance of subsequently produced equipment.

(e) If any modifications or changes are made by anyone other than the responsible party for the Declaration of Conformity, the party making the modifications or changes, if located

within the U.S., becomes the new responsible party. The new responsible party must comply with all provisions for the Declaration of Conformity, including having test data on file demonstrating that the product continues to comply with all of the applicable technical standards.

[61 FR 31046, June 19, 1996, as amended at 80 FR 33446, June 12, 2015]

§ 2.1074 Identification.

Devices subject only to a Declaration of Conformity shall be uniquely identified by the responsible party. This identification shall not be of a format which could be confused with the FCC Identifier required on certified, notified, type accepted or type approved equipment. The responsible party shall maintain adequate identification records to facilitate positive identification for each device.

[61 FR 31047, June 19, 1996]

§ 2.1075 Retention of records.

(a) Except as shown in paragraph (b) of this section, for each product subject to a Declaration of Conformity, the responsible party, as shown in § 2.909, shall maintain the following records:

(1) A record of the original design drawings and specifications and all changes that have been made that may affect compliance with the requirements of § 2.1073.

(2) A record of the procedures used for production inspection and testing (if tests were performed) to insure the conformance required by § 2.1073. (Statistical production line emission testing is not required.)

(3) A record of the measurements made on an appropriate test site that demonstrates compliance with the applicable regulations. The record shall contain:

(i) The actual date or dates testing was performed;

(ii) The name of the test laboratory, company, or individual performing the testing. The Commission may request additional information regarding the test site, the test equipment or the qualifications of the company or individual performing the tests;

(iii) A description of how the device was actually tested, identifying the

measurement procedure and test equipment that was used;

(iv) A description of the equipment under test (EUT) and support equipment connected to, or installed within, the EUT;

(v) The identification of the EUT and support equipment by trade name and model number and, if appropriate, by FCC Identifier and serial number;

(vi) The types and lengths of connecting cables used and how they were arranged or moved during testing;

(vii) At least two photographs showing the test set-up for the highest line conducted emission and showing the test set-up for the highest radiated emission. These photographs must be focused originals which show enough detail to confirm other information contained in the test report;

(viii) A description of any modifications made to the EUT by the testing company or individual to achieve compliance with the regulations;

(ix) All of the data required to show compliance with the appropriate regulations;

(x) The signature of the individual responsible for testing the product along with the name and signature of an official of the responsible party, as designated in § 2.909; and

(xi) A copy of the compliance information, as described in § 2.1077, required to be provided with the equipment.

(b) If the equipment is assembled using modular components that, by themselves, are subject to authorization under a Declaration of Conformity and/or a grant of certification, and the assembled product is also subject to authorization under a Declaration of Conformity but, in accordance with the applicable regulations, does not require additional testing, the assembler shall maintain the following records in order to show the basis on which compliance with the standards was determined:

(1) A listing of all of the components used in the assembly;

(2) Copies of the compliance information, as described in § 2.1077 for all of the modular components used in the assembly;

(3) A listing of the FCC Identifier numbers for all of the components used

§2.1077

47 CFR Ch. I (10–1–15 Edition)

in the assembly that are authorized under a grant of certification;

(4) A listing of equipment modifications, if any, that were made during assembly; and

(5) A copy of any instructions included with the components that were required to be followed to ensure the assembly of a compliant product, along with a statement, signed by the assembler, that these instructions were followed during assembly. This statement shall also contain the name and signature of an official of the responsible party, as designated in §2.909.

(c) The records listed in paragraphs (a) and (b) of this section shall be retained for two years after the manufacture or assembly, as appropriate, of said equipment has been permanently discontinued, or until the conclusion of an investigation or a proceeding if the responsible party is officially notified that an investigation or any other administrative proceeding involving the equipment has been instituted. Requests for the records described in this section and for sample units also are covered under the provisions of §2.945.

[61 FR 31047, June 19, 1996, as amended at 80 FR 33447, June 12, 2015]

§2.1077 Compliance information.

(a) If a product must be tested and authorized under a Declaration of Conformity, a compliance information statement shall be supplied with the product at the time of marketing or importation, containing the following information:

(1) Identification of the product, e.g., name and model number;

(2) A statement, similar to that contained in §15.19(a)(3) of this chapter, that the product complies with part 15 of this chapter; and

(3) The identification, by name, address and telephone number, of the responsible party, as defined in §2.909. The responsible party for a Declaration of Conformity must be located within the United States.

(b) If a product is assembled from modular components that, by themselves, are authorized under a Declaration of Conformity and/or a grant of certification, and the assembled product is also subject to authorization under a Declaration of Conformity but,

in accordance with the applicable regulations, does not require additional testing, the product shall be supplied, at the time of marketing or importation, with a compliance information statement containing the following information:

(1) Identification of the assembled product, e.g., name and model number.

(2) Identification of the modular components used in the assembly. A modular component authorized under a Declaration of Conformity shall be identified as specified in paragraph (a)(1) of this section. A modular component authorized under a grant of certification shall be identified by name and model number (if applicable) along with the FCC Identifier number.

(3) A statement that the product complies with part 15 of this chapter.

(4) The identification, by name, address and telephone number, of the responsible party who assembled the product from modular components, as defined in §2.909. The responsible party for a Declaration of Conformity must be located within the United States.

(5) Copies of the compliance information statements for each modular component used in the system that is authorized under a Declaration of Conformity.

(c) The compliance information statement shall be included in the user's manual or as a separate sheet. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.

[61 FR 31048, June 19, 1996, as amended at 62 FR 41880, Aug. 4, 1997; 69 FR 71383, Dec. 9, 2004]

RADIOFREQUENCY RADIATION EXPOSURE

§2.1091 Radiofrequency radiation exposure evaluation: mobile devices.

(a) Requirements of this section are a consequence of Commission responsibilities under the National Environmental Policy Act to evaluate the environmental significance of its actions.

See subpart I of part 1 of this chapter, in particular § 1.1307(b).

(b) For purposes of this section, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons. In this context, the term "fixed location" means that the device is physically secured at one location and is not able to be easily moved to another location. Transmitting devices designed to be used by consumers or workers that can be easily re-located, such as wireless devices associated with a personal computer, are considered to be mobile devices if they meet the 20 centimeter separation requirement.

(c)(1) Mobile devices that operate in the Commercial Mobile Radio Services pursuant to part 20 of this chapter; the Cellular Radiotelephone Service pursuant to part 22 of this chapter; the Personal Communications Services pursuant to part 24 of this chapter; the Satellite Communications Services pursuant to part 25 of this chapter; the Miscellaneous Wireless Communications Services pursuant to part 27 of this chapter; the Maritime Services (ship earth station devices only) pursuant to part 80 of this chapter; the Specialized Mobile Radio Service, and the 3650 MHz Wireless Broadband Service pursuant to part 90 of this chapter; and the Citizens Broadband Radio Service pursuant to part 96 of this chapter are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use if:

(i) They operate at frequencies of 1.5 GHz or below and their effective radiated power (ERP) is 1.5 watts or more, or

(ii) They operate at frequencies above 1.5 GHz and their ERP is 3 watts or more.

(2) Unlicensed personal communications service devices, unlicensed millimeter wave devices and unlicensed NII devices authorized under §§ 15.253(f), 15.255(g), 15.257(g), 15.319(i), and 15.407(f) 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.

(3) 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.

(4) Applications for equipment authorization of mobile and unlicensed transmitting devices subject to routine environmental evaluation must contain a statement confirming compliance with the limits specified in paragraph (d) of this section. Technical information showing the basis for this statement must be submitted to the Commission upon request.

(d) The limits to be used for evaluation are specified in § 1.1310 of this chapter. All unlicensed personal communications service (PCS) devices and unlicensed NII devices shall be subject to the limits for general population/uncontrolled exposure.

(1) For purposes of analyzing mobile transmitting devices under the occupational/controlled criteria specified in § 1.1310 of this chapter, time-averaging provisions of the guidelines may be used in conjunction with typical maximum duty factors to determine maximum likely exposure levels.

(2) Time-averaging provisions may not be used in determining typical exposure levels for devices intended for use by consumers in general population/uncontrolled environments as defined in § 1.1310 of this chapter. However, "source-based" time-averaging based on an inherent property or duty-cycle of a device is allowed. An example of this is the determination of exposure from a device that uses digital technology such as a time-division multiple-access (TDMA) scheme for transmission of a signal. In general, maximum average power levels must be used to determine compliance.

(3) If appropriate, awareness of exposure from devices in this section can be accomplished by the use of visual advisories (such as labeling, embossing, or on an equivalent electronic display)

§ 2.1093

and by providing users with information concerning minimum separation distances from radiating structures and proper installation of antennas.

(i) Visual advisories shall be legible and clearly visible to the user from the exterior of the device.

(ii) Visual advisories used on devices that are subject to occupational/controlled exposure limits must indicate that the device is for occupational use only, must refer the user to specific information on RF exposure, such as that provided in a user manual, and must note that the advisory and its information is required for FCC RF exposure compliance. Such instructional material must provide the user with information on how to use the device in order to ensure compliance with the occupational/controlled exposure limits.

(iii) A sample of the visual advisory, illustrating its location on the device, and any instructional material intended to accompany the device when marketed, shall be filed with the Commission along with the application for equipment authorization.

(iv) For occupational devices, details of any special training requirements pertinent to limiting RF exposure should also be submitted. Holders of grants for mobile devices to be used in occupational settings are encouraged, but not required, to coordinate with end-user organizations to ensure appropriate RF safety training.

(4) In some cases, e.g., modular or desktop transmitters, the potential conditions of use of a device may not allow easy classification of that device as either mobile or portable (also see § 2.1093). In such cases, applicants are responsible for determining minimum distances for compliance for the intended use and installation of the device based on evaluation of either specific absorption rate (SAR), field strength or power density, whichever is most appropriate.

[61 FR 41017, Aug. 7, 1996, as amended at 62 FR 4655, Jan. 31, 1997; 62 FR 9658, Mar. 3, 1997; 62 FR 47966, Sept. 12, 1997; 68 FR 38638, June 30, 2003; 69 FR 3264, Jan. 23, 2004; 70 FR 24725, May 11, 2005; 78 FR 21559, Apr. 11, 2013; 78 FR 29062, May 17, 2013; 78 FR 33651, June 4, 2013; 80 FR 36221, June 23, 2015]

47 CFR Ch. I (10–1–15 Edition)

§ 2.1093 Radiofrequency radiation exposure evaluation: portable devices.

(a) Requirements of this section are a consequence of Commission responsibilities under the National Environmental Policy Act to evaluate the environmental significance of its actions. See subpart I of part 1 of this chapter, in particular § 1.1307(b).

(b) For purposes of this section, a portable device is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user.

(c)(1) Portable devices that operate in the Cellular Radiotelephone Service pursuant to part 22 of this chapter; the Personal Communications Service (PCS) pursuant to part 24 of this chapter; the Satellite Communications Services pursuant to part 25 of this chapter; the Miscellaneous Wireless Communications Services pursuant to part 27 of this chapter; the Maritime Services (ship earth station devices only) pursuant to part 80 of this chapter; the Specialized Mobile Radio Service, the 4.9 GHz Band Service, and the 3650 MHz Wireless Broadband Service pursuant to part 90 of this chapter; the Wireless Medical Telemetry Service (WMTS) and the Medical Device Radiocommunication Service (MedRadio), pursuant to subparts H and I of part 95 of this chapter, respectively, unlicensed personal communication service, unlicensed NII devices and millimeter wave devices authorized under §§ 15.253(f), 15.255(g), 15.257(g), 15.319(i), and 15.407(f) of this chapter; and the Citizens Broadband Radio Service pursuant to part 96 of this chapter are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use.

(2) All other portable 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.

(3) 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. Technical information showing the basis for this statement must be submitted to the Commission upon request.

(d) The limits to be used for evaluation are based generally on criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate ("SAR") in Section 4.2 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. These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," NCRP Report No. 86, Section 17.4.5. Copyright NCRP, 1986, Bethesda, Maryland 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards. The criteria to be used are specified in paragraphs (d)(1) and (d)(2) of this section and shall apply for portable devices transmitting in the frequency range from 100 kHz to 6 GHz. Portable devices that transmit at frequencies above 6 GHz are to be evaluated in terms of the MPE limits specified in § 1.1310 of this chapter. Measurements and calculations to demonstrate compliance with MPE field strength or power density limits for devices operating above 6 GHz should be made at a minimum distance of 5 cm from the radiating source.

(1) The SAR limits for occupational/controlled exposure are 0.4 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 8 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit for occupational/controlled exposure is 20 W/kg, averaged over any 10 grams of tissue (defined as a tissue

volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 6 minutes to determine compliance with occupational/controlled SAR limits.

(i) Occupational/Controlled limits apply when persons are exposed as a consequence of their employment provided these persons are fully aware of and exercise control over their exposure. Awareness of exposure can be accomplished by use of visual advisories (such as labeling, embossing, or on an equivalent electronic display) or by specific training or education through appropriate means, such as an RF safety program in a work environment.

(ii) Visual advisories on portable devices designed only for occupational use can be used as part of an applicant's evidence of the device user's awareness of occupational/controlled exposure limits.

(A) Such visual advisories shall be legible and clearly visible to the user from the exterior of the device.

(B) Visual advisories must indicate that the device is for occupational use only, refer the user to specific information on RF exposure, such as that provided in a user manual and note that the advisory and its information is required for FCC RF exposure compliance.

(C) Such instructional material must provide the user with information on how to use the device in order to ensure compliance with the occupational/controlled exposure limits.

(D) A sample of the visual advisory, illustrating its location on the device, and any instructional material intended to accompany the device when marketed, shall be filed with the Commission along with the application for equipment authorization. Details of any special training requirements pertinent to limiting RF exposure should also be submitted.

(E) Holders of grants for portable devices to be used in occupational settings are encouraged, but not required, to coordinate with end-user organizations to ensure appropriate RF safety training.

(2) The SAR limits for general population/uncontrolled exposure are 0.08 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 1.6

§2.1201

W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit is 4 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 30 minutes to determine compliance with general population/uncontrolled SAR limits.

(i) General Population/Uncontrolled limits apply when the general public may be exposed, or when persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or do not exercise control over their exposure.

(ii) Visual advisories (such as labeling, embossing, or on an equivalent electronic display) on consumer devices such as cellular telephones will not be sufficient reason to allow these devices to be evaluated subject to limits for occupational/controlled exposure in paragraph (d)(1) of this section.

(3) Compliance with SAR limits can be demonstrated by either laboratory measurement techniques or by computational modeling. The latter must be supported by adequate documentation showing that the test device and exposure conditions have been correctly modeled in accordance with the operating configurations for normal use. Guidance regarding SAR measurement techniques can be found in the Office of Engineering and Technology (OET) Laboratory Division Knowledge Database (KDB). The staff guidance provided in the KDB does not necessarily represent the only acceptable methods for measuring RF exposure or emissions, and is not binding on the Commission or any interested party.

(4) For purposes of analyzing portable transmitting devices under the occupational/controlled criteria, the time-averaging provisions of the MPE guidelines identified in §1.1310 of this chapter can be used in conjunction with typical maximum duty factors to determine maximum likely exposure levels.

(5) Time-averaging provisions of the MPE guidelines identified in §1.1310 of

47 CFR Ch. I (10–1–15 Edition)

this chapter may not be used in determining typical exposure levels for portable devices intended for use by consumers, such as hand-held cellular telephones, that are considered to operate in general population/uncontrolled environments as defined above. However, “source-based” time-averaging based on an inherent property or duty-cycle of a device is allowed. An example of this would be the determination of exposure from a device that uses digital technology such as a time-division multiple-access (TDMA) scheme for transmission of a signal. In general, maximum average power levels must be used to determine compliance.

[61 FR 41017, Aug. 7, 1996, as amended at 62 FR 4655, Jan. 31, 1997; 62 FR 9658, Mar. 3, 1997; 62 FR 47967, Sept. 12, 1997; 65 FR 44007, July 17, 2000; 68 FR 38638, June 30, 2003; 69 FR 3264, Jan. 23, 2004; 70 FR 24725, May 11, 2005; 74 FR 22704, May 14, 2009; 76 FR 67607, Nov. 2, 2011; 78 FR 21559, Apr. 11, 2013; 78 FR 33652, June 4, 2013; 80 FR 36221, June 23, 2015]

Subpart K—Importation of Devices Capable of Causing Harmful Interference

§2.1201 Purpose.

(a) In order to carry out its responsibilities under the Communications Act and the various treaties and international regulations, and in order to promote efficient use of the radio spectrum, the Commission has developed technical standards for radio frequency equipment. The technical standards applicable to individual types of equipment are found in that part of the rules governing the service wherein the equipment is to be operated. In addition to the technical standards, the rules governing the service may require that such equipment receive an equipment authorization from the Commission as a prerequisite for marketing and importing this equipment into the U.S.A. The marketing rules, §2.801 *et seq.*, were adopted pursuant to the authority in section 302 of the Communications Act of 1934, as amended (47 U.S.C. 302).

(b) The rules in this section set out the conditions under which radio frequency devices as defined in §2.801 that