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Question:

What guidance does the FCC provide to accredited testing laboratories that are recognized by the FCC to test products subject to Declaration of Conformity (DoC) and Certification procedures?

Answer:

The attached document below 974614 D01 Accredited Test Lab Roles and Resp v01 provides guidance to accredited testing laboratories and an overview in the Accredited Testing Laboratory Program Roles and Responsibilities document.

Attachment List:

974614 D01 Accredited Test Lab Roles and Resp v01

¹ Publication number when or if published.

Attachment

Federal Communications Commission
Office of Engineering and Technology
Laboratory Division

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Accredited Testing Laboratory Program Roles and Responsibilities

1. Introduction

The FCC regulations define the requirements for Commission’s equipment authorization program.² An Accredited Testing Laboratory is required to be used when testing products subject to Declaration of Conformity (DoC) procedures and may be used to test products to be authorized under the Certification and Verification procedures. The FCC rules allow for recognition of testing laboratories as “2.948 listed” per section 2.948(a)(2) and as an “accredited” testing laboratory under 2.948(d) for domestic testing laboratories and 2.948(e) for foreign testing laboratories.

Testing laboratories that are “2.948 listed” and not accredited may not test devices subject to DoC procedures to show compliance with FCC technical regulations.

A DoC is a procedure where the responsible party as defined in Section 2.909, makes measurements or takes other necessary steps to ensure that the equipment complies with the appropriate technical standards. Submission of information or test data to the Commission demonstrating compliance is not required unless specifically requested pursuant to section 2.1076. Examples of devices subject to DoC include, but are not limited to: Class B personal computers and peripherals; CB receivers; super-regenerative receivers; and TV interface devices.³

Devices subject to the DoC procedure are required to be tested to show compliance with the FCC technical regulations by a recognized accredited testing laboratory.⁴ The testing laboratory must be accredited by a Commission approved accreditation body or designated under the terms of a government-to-government Mutual Recognition Agreement (MRA).⁵ A listing of those accredited testing laboratories that have been recognized by the Commission is published on the FCC Webpage.⁶

² 47 C.F.R. Part 2

³ 47 C.F.R. § 15.101

⁴ 47 C.F.R § 2.948(d)

⁵ <http://www.fcc.gov/oet/ea/mra/>

⁶ <https://fjallfoss.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm>

2. Key Players

Accreditation Body. The Accreditation Body (AB) is the authoritative body that performs accreditation. Accreditation is a third-party attestation related to a conformity assessment body conveying formal demonstration of its competence to carry out specific conformity assessment tasks.⁷

Conformity Assessment Body. A conformity assessment body (CAB) is a body that performs conformity assessment services.⁸ Testing laboratories and certification bodies are considered to be conformity assessment bodies.

Test firm designating authority. The Designating Authority (DA) is responsible for determining that the testing laboratory is competent and capable of performing testing with the scope of the designation.⁹

Testing laboratory. The testing laboratory is responsible to make a determination of the applicable test procedures and to properly test to those requirements.

3. Accreditation Body Recognition Procedure

The organization accrediting the laboratory must be approved by the Commission's Office of Engineering and Technology (OET) to perform accreditation to ISO/IEC 17025, "*General Requirements for the Competence of Testing and Calibration Laboratories*" with respect to the FCC requirements, based on ISO/IEC 17011, *Conformity assessment — General requirements for accreditation bodies accrediting conformity assessment bodies*.¹⁰

OET has established a minimum set of qualifying information that an applicant who desires to be recognized by the Commission as a laboratory accreditation body shall provide in support of its application. An applicant must submit to the Chief of OET a letter requesting such recognition and provide the qualifying information described below. The Chief of OET will make a determination of recognition based on the information provided in support of an application. To demonstrate its credentials and qualifications to perform accreditation of laboratories that test equipment to Commission requirements, an applicant shall provide, at a minimum, evidence of:

⁷ ISO/IEC 17000, clause 2.6 and 5.6

⁸ ISO/IEC 17000 (2004), clause 2.5

⁹ ISO/IEC 17000 (2004), clause 7.3

¹⁰ ISO/IEC 17011 (2004) has replaced ISO/IEC 58, *Calibration and Testing Laboratory Accreditation Systems – General Requirements for Operation and Recognition* which is specified in 47 C.F.R. § 2.948 (d).

- a) Successful completion of a ISO/IEC 17011 peer review, such as being a signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) or other equivalent laboratory accreditation agreement;¹¹
- b) Experience with the accreditation of electromagnetic compatibility (EMC), radio and telecom testing laboratories to ISO/IEC 17025. This can be demonstrated by having OET staff participate in a witness audit of the accreditation body performing an assessment of an EMC/Radio/Telecom testing laboratory; or by having OET staff review the report(s) generated by the National Institute of Standards and Technology (NIST) laboratory accreditation evaluation program conducted to support the Asia Pacific Economic Cooperation (APEC) Mutual Recognition Arrangement (MRA) for Conformity Assessment of Telecommunications Equipment. An applicant that offers other evidence has the burden of demonstrating that the information would enable OET to evaluate its experience with the accreditation of electromagnetic compatibility (EMC), radio and telecom testing laboratories to ISO/IEC 17025.¹²
- c) Accreditation personnel with specific experience on the Commission equipment authorization rules and requirements; and
- d) Procedures and policies developed for the accreditation of testing laboratories for FCC equipment authorization programs.

In order to ensure the continued integrity of the laboratory accreditation program, OET will periodically review the accreditation process and maintain close coordination with each of the organizations that it has recognized to perform accreditations. OET will pursue opportunities to observe in peer review assessments under the ILAC MRA process and to observe and participate in the NIST witness assessments of these laboratory accreditation bodies. This will help ensure their continued acceptable performance and provide us with information to assess periodically their qualifications to maintain their status as Commission-recognized laboratory accreditation bodies.

4. Accredited Testing Laboratory Recognition Procedure

The following procedure is to be followed in order for a testing laboratory to be recognized by the FCC as an Accredited Testing Laboratory in order to be deemed competent to test products subject to Declaration of Conformity (DoC) procedures and may be used to test products to be authorized under the Certification and Verification procedures.

¹¹ The ILAC Arrangement builds upon existing or developing regional arrangements established around the world. The European cooperation for Accreditation (EA), the Asia Pacific Laboratory Accreditation Cooperation (APLAC) and the Inter-American Accreditation Cooperation (IAAC) are examples of current ILAC-recognized regions with acceptable mutual recognition arrangements (MRAs) and evaluation procedures. See ILAC arrangement at <http://www.ilac.org/ilacarrangement.html>

¹² Domestic laboratory accreditation bodies that successfully complete the NIST evaluation program are listed by NIST as acceptable for use by domestic laboratories seeking to be designated to foreign MRA partner economies.

- a) The FCC or an FCC recognized Designating Authority (DA) shall determine which accreditation bodies meet ISO/IEC 17011 and are qualified to accredit conformity assessment bodies (CABs) within their territory to perform testing to the FCC requirements.
- b) The testing laboratory shall meet the requirements of ISO/IEC 17025 accreditation with a scope covering the applicable FCC requirements and test procedures.
- c) The FCC has developed the Accredited Test Laboratory Technical Assessment Evaluation checklist to be used by the accreditation body to aid in the assessment of testing laboratories.¹³
- d) Requests for designation should be submitted to the DA, in the laboratory's own country, requesting the CAB be designated to the FCC for recognition by the FCC as an accredited testing laboratory. Note that for CABs in the US, the recognized accreditation body designates the CAB directly to the FCC and the recognized accreditation body is considered the DA.
- e) The DA reviews the accreditation information and makes a determination as to whether the CAB meets the requirements for designation.
- f) Once the DA determines that the requirements have been met it designates the CAB to the FCC by providing the information listed below for review and recognition by the FCC.
- g) When reviewing a request to recognize a testing laboratory the FCC will:
 - i. Evaluate the information submitted regarding the CAB.
 - ii. Make a determination on whether to recognize the CAB.
 - iii. Notify the designating authority of the decision on request for designation.
- h) When reviewing a request to recognize a testing laboratory the FCC Staff will look for the following information:
 - i. Procedure used by DA to designate the CAB.
 - ii. Name, location, mailing and contact information. The CAB shall be physically located in the country from which it is being designated.
 - iii. Designation number and FCC Registration Number (FRN).
 - iv. An indication as to whether the test laboratory performs testing for other entities.
 - v. ISO/IEC 17025 Certificate of Accreditation. In cases where the accrediting body does not issue a certificate, equivalent information must be provided.
 - vi. The FCC rule sections the accreditation applies to.
 - vii. The FCC test procedures the accreditation applies to (see tables 1 and 2).

¹³ http://www.fcc.gov/oet/ea/FCC_Technical_Assessor_Checklist-12-May-2008.pdf

- viii. The expiration date and period of the accreditation. The FCC rules require that a testing laboratory must be re-evaluated by the accreditation body at least every two years.
- ix. Completed Accredited Laboratory FCC Technical Assessment checklist. For the designation of a newly accredited testing laboratory a completed checklist shall be provided. For a renewal of the designation of an accredited testing laboratory a statement indicating continued compliance with a previously submitted checklist is acceptable.
 - i) For the renewal of the recognition of an accredited testing laboratory, the FCC database expiration date shall be updated by the DA.
 - j) The FCC required information may only be submitted by the DA and should not be submitted directly to the FCC from the CAB. The DA shall submit the information by completing fields on the designation web page and uploading any required attachments.

Note: Information provided in support of the designation of an accredited testing laboratory is publicly available on the FCC webpage.

5. Accreditation Requirements

An accredited testing laboratory is required to be accredited to ISO/IEC Standard 17025, *General requirements for the competence of testing and calibration laboratories*, with a scope covering the required measurements.¹⁴

Domestic Accredited Testing Laboratories. Organizations located in the United States, desiring ISO/IEC 17025 accreditation as an EMC testing laboratory, should contact one of the following accreditation bodies:

A2LA

American Association for Laboratory Accreditation
Operations Manager
5301 Buckeystown Pike
Suite 350
Frederick, MD 21704
Tel: 301-644-3223
Fax: 301-622-2974

Contact: Trace McInturff
tmcinturff@a2la.org
www.a2la.org

¹⁴ ISO/IEC 17025 (1999) has been revised and a new edition published as ISO/IEC 17025 (2005) *General requirements for the competence of testing and calibration laboratories*. Accreditation to the 2005 edition is considered acceptable to meet this requirement.

ACCLASS

ACCLASS Accreditation Services
An ANSI-ASQ National Accreditation Board Company
500 Montgomery Street, Suite 625
Alexandria, VA 22314

Contact: Keith Greenaway
Keith.greenaway@aclasscorp.com
www.aiclasscorp.com

NVLAP

National Voluntary Accreditation Program
Standards Services Division
National Institute of Standards and Technology
100 Bureau Drive, Stop 2140
Gaithersburg, MD 20899-2140

Contact: Brad Moore
nvlap@nist.gov or Brad.Moore@nist.gov
<http://ts.nist.gov/standards/accreditation/index.cfm>

Foreign Accredited Testing Laboratories. For organizations outside of the United States, first determine if there is a Mutual Recognition Agreement (MRA) that covers the location and then contact the designating authority for the applicable country to determine how to become accredited. A list of test firm designating authorities/test firm accrediting bodies is available on the OET website.¹⁵ Information regarding MRAs and the designation procedures can be found on the OET webpage.¹⁶

6. Scope of Accreditation

DoC Testing. The testing laboratory performing tests in support of the FCC’s DoC requirements shall be accredited to ISO/IEC 17025 with a scope of accreditation covering the regulations and measurement procedures listed in table 1.¹⁷

TABLE 1: Scope of Accreditation for testing performed in support of DoC

Type of Device Examples	Scope of accreditation
Part 15, Unintentional Radiators <ul style="list-style-type: none"> • CB Receiver • Superregenerative Receiver 	ANSI C63.4-2003 <i>American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and</i>

¹⁵ <https://fjallfoss.fcc.gov/oetcf/mra/reports/AccreditingBodyReport.cfm>

¹⁶ <http://www.fcc.gov/oet/ea/mra/>

¹⁷ See the FCC equipment authorization web page for links to the referenced measurement procedures. <http://www.fcc.gov/oet/ea/eameasurements.html>

<ul style="list-style-type: none"> • All other receivers subject to part 15 • TV interface device • Cable system terminal device • Class B personal computers and peripherals • CPU boards and internal power supplies used with Class B personal computers • Class B personal computers assembled using authorized CPU boards or power supplies 	<p><i>Electronic Equipment in the Range of 9 kHz to 40 GHz; or</i></p> <p><i>ANSI C63.4-2009, 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</i></p>
<p>Part 18, Industrial, Scientific, and Medical Equipment</p> <ul style="list-style-type: none"> • Consumer ISM equipment 	<p>FCC MP-5, (February 1986) <i>FCC Methods of Measurements of Radio Noise Emissions From Industrial, Scientific, and Medical Equipment</i></p>

Intentional Radiator Testing. A laboratory that has been accredited with a scope covering the required measurements shall be deemed competent to test and submit test data for equipment subject to Verification, Declaration of Conformity, and Certification. The frequency for revalidation of the test site 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. However, in all cases, test site revalidation shall occur on an interval not to exceed two years.¹⁸

Depending on the types of testing to be performed, the accredited testing laboratory shall have the applicable standards included in their scope of accreditation from the list in table 2.

TABLE 2: Scope of Accreditation for testing Intentional Radiators

Type of Device Examples	Scope of accreditation
<p>Part 15 Intentional Radiator</p> <ul style="list-style-type: none"> • remote control and security unlicensed wireless devices • frequency hopping and direct sequence spread spectrum devices • anti-pilferage devices • cordless telephones • wireless medical unlicensed wireless devices • Unlicensed National Information Infrastructure devices • intrusion detectors • unlicensed wireless devices operating on frequencies below 30 MHz • automatic vehicle identification systems 	<p><i>ANSI C63.4-2003 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; or</i></p> <p><i>ANSI C63.4-2009, 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; or</i></p> <p><i>ANSI C63.10-2009, American National Standard for Testing Unlicensed Wireless Devices</i></p>

¹⁸ 47 C.F.R 2.948(d)

<ul style="list-style-type: none"> • other unlicensed wireless devices authorized for operation by the FCC 	
<p>Part 15, Subpart D</p> <ul style="list-style-type: none"> • Unlicensed Personal Communication Systems devices. 	<p>ANSI C63.17-2006, <i>American National Standard Methods of Measurement of the Electromagnetic and Operational Compatibility of Unlicensed Personal Communications Services (UPCS) Devices</i></p>
<p>RF Radiation Exposure</p> <ul style="list-style-type: none"> • portable devices subject to RF exposure requirements 	<p>IEEE Std 1528™-2003, <i>IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques</i></p> <p>IEEE Std 1528a™-2005 (Amendment to IEEE Std 1528™-2003), <i>IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques Amendment 1: CAD File for Human Head Model (SAM Phantom)</i></p>

Guidance on the measurement procedures to be used for a given technical requirement may be found in the associated report and order, FCC public notice, FCC bulletin or interpretation found on the OET Knowledge Database (KDB).¹⁹

7. Technical Assessment Evaluation

The FCC has developed the Accredited Test Laboratory Technical Assessment Evaluation checklist to be used by the accreditation body to aid in the assessment of testing laboratories.²⁰ For the designation of a newly accredited testing laboratory a completed checklist shall be provided to the Commission by the accreditation body or the designating authority. For a renewal of the designation of an accredited testing laboratory a statement indicating continued compliance with a previously submitted checklist is acceptable.

The checklist identifies specific items to be evaluated during the technical assessment of a testing laboratory to determine the capability and competence of that laboratory to perform EMC tests to show compliance with FCC regulatory requirements under the FCC Regulations contained in 47 CFR Parts 2, 15, and 18. The checklist is intended to serve as a guide and provide a minimum list of items to be included in the technical evaluation of the

¹⁹ See <http://www.fcc.gov/oet/ea/eameasurements.html>

²⁰ http://www.fcc.gov/oet/ea/FCC_Technical_Assessor_Checklist-12-May-2008.pdf

test laboratory as part of the complete ISO/IEC 17025 assessment. The checklist is not intended to replace good engineering judgment of the technical assessor(s) or a thorough evaluation of the facility. As such, other related items may be evaluated by the assessor(s). The accreditation body shall attest that all responses on this checklist are complete and accurate. The checklist may be provided to the FCC and be publicly available.

8. Radiated Emissions Test Facility

A measurement facility that will be used for testing radiated emissions is required to comply with the normalized site attenuation (NSA) requirements in C63.4.²¹ The measurement procedures and NSA requirements in C63.4 have been updated and the Commission has clarified that either C63.4-2003 or C63.4-2009 may be used to demonstrate that the test facility meets the NSA requirements.²²

Antenna Calibration. Test laboratories performing radiated emission measurements and NSA measurements, as required by the FCC rules, should use antennas calibrated in accordance with ANSI C63.5-2006, *American National Standard Electromagnetic Compatibility-Radiated Emission Measurements in Electromagnetic Interference (EMI) Control-Calibration of Antennas (9kHz to 40 GHz)*.²³

It is useful to note that the calibration procedure outlined in ANSI C63.5-2006 is based solely on horizontally polarized measurements performed at a standard antenna calibration site, with a measurement distance of 10 meters.²⁴ These antenna factors can then be used for either vertically or horizontally polarized measurements at distances from the equipment-under-test of 3 meters or more, in accordance with the applicable procedures of ANSI C63.4-2003, ANSI C63.4-2009, or ANSI C63.10-2009.

Site Validation Requirements. The site validation requirements for test facilities used to make radiated emission measurements have been updated and published as C63.4-2009. Pending future rulemaking either the procedures in C63.4-2003 or C63.4-2009 may be used to demonstrate compliance with the site validation requirements.²⁵ Validation of the acceptability criterion shall be confirmed no less than once every three years.²⁶

²¹ 47 C.F.R. §2.948

²² See Public Notice DA 09-2478. The Commission indicated therein that pending a future rulemaking to update the rules, it will accept test data for radiated emissions and NSA performed using the procedures in ANSI C63.4-2009.

²³ See KDB Publication 822428

²⁴ See C63.5-2006 clause 4.3 for standard antenna calibration site requirements.

²⁵ See 47 C.F.R. § 2.948(b)(8) regarding the site attenuation validation requirements. The FCC rules were updated to reference C63.4-2003 under ET Docket No. 03-201 (FCC 04-165). The continued reference to ANSI C63.4-2001 in §2.948(b)(8) was an oversight when the rules were updated and the correct reference is C63.4-2003.

²⁶ See ANSI C63.4-2009, clause 5.4.4.2

C63.4-2009 provides two options for test facilities used to make radiated emission measurements above 1 GHz and clarifies that the use of RF absorber on the top of the ground plane is permitted.²⁷ Facilities suitable for measurements in the frequency range 30 MHz to 1000 MHz are considered suitable for the frequency range 1 GHz to 40 GHz with RF absorbing material covering the ground plane such that either:

- a) the site validation criterion called out in CISPR 16-1-4:2007 is met; or
- b) a minimum area of the ground plane is covered, 2.4 m by 2.4 m (for a 3 m test distance), between the antenna and the EUT using RF absorbing material with a minimum-rated attenuation of 20 dB (for normal incidence) up to 18 GHz.

C63.4-2003 does not have site validation requirements for test facilities used to make radiated emissions above 1 GHz. However, it does state that facilities that are suitable for measurements in the frequency range 30 MHz to 1000 MHz are considered suitable for the frequency range 1 GHz to 40 GHz, including the presence of the reference ground-plane.²⁸

9. Transition Period for New Measurement Methods

It is recognized that it will take time for an accredited testing laboratory to update their ISO/IEC 17025 scope of accreditation when changes are made to the standards in their scope of accreditation. Testing laboratories are required to update their scope of accreditation within the next accreditation re-assessment or surveillance cycle following the adoption of the new standard as being required by the FCC, but in no case longer than 2 years.

10. List of Accredited Testing Laboratories

To view a listing of accredited laboratories, choose "Accredited" at the Test Firm Type pull-down arrow at <https://fjallfoss.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm>. The information in this database is maintained by the applicable accreditation body or designating authority. Any corrections to this information will need to be made by them and should not be submitted directly to the FCC from the accredited testing laboratory.

11. References

- a) ET Docket No. 09-161, *Recognition of Laboratory Accreditation Bodies, and ACLASS Application for Recognition*
- b) ET Docket No. 95-19, *Amendment of Parts 2 and 15 of the Commission's Rules to Deregulate the Equipment Authorization Requirements for Digital Devices*

²⁷ See ANSI C63.4-2009, clause 5.5 for the specific requirements for test facilities used to perform radiated emission measurements above 1 GHz.

²⁸ See ANSI C63.4-2003, clause 5.5

- c) DA 09-2478, Office of Engineering and Technology Clarifies Use of Recently Published ASC C63[®] Measurement Standards for Compliance Testing of Intentional and Unintentional Radiators under Part 15

