Draft Laboratory Division Publications Report

Title: Accredited Testing Laboratory Program Roles and Responsibilities

Short Title: Accredited Test Lab Roles and Resp

Reason: Updated to incorporate changes required by FCC 14-208

Publication: 974614

Keyword/Subject: Accredited Test Firm Roles

First Category: Test Sites and Accreditation
Second Category: Accreditation

Question:

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

Answer:

The FCC provides guidance on the accreditation of testing laboratories in the Accredited Testing Laboratory Program Roles and Responsibilities document, 974614 D01 Accredited Test Lab Roles and Resp v03, attached below.

Attachment List:

74614 D01 Accredited Test Lab Roles and Resp v03
1. Introduction

The FCC regulations define the requirements for Commission’s equipment authorization program. An Accredited Testing Laboratory is required to be used when testing products subject to the Certification and Declaration of Conformity (DoC) procedures.

Certification represents the most rigorous equipment authorization procedure, and is typically applied to RF equipment employing new technology for which the testing methodology is relatively complex or not well defined, or that otherwise is considered to have the highest risk of interference. Examples of devices subject to certification include, but are not limited to, mobile phones; wireless local area networking equipment; land mobile radio transmitters; wireless medical telemetry transmitters; and cordless telephones. All certified equipment is listed in a Commission database that includes the application for certification, test report and other material.

DoC is a self-approval process and it requires the responsible party to use a recognized accredited test laboratory when testing devices. The responsible party also must include a compliance information statement with the product that identifies the product and a responsible party within the United States.

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1 See 47 C.F.R. Part 2.
2 The FCC rules no longer allow for recognition of testing laboratories as “2.948 listed” for testing of equipment subject to certification under Parts 15 and 18. A transition period of one year from the effective date of the equipment authorization order (FCC 14-208) is provided for phasing out the “2.948 test site listing” program. As of the effective date of the order the FCC will stop accepting requests to recognize new “2.948 listed test sites”. “2.948 listed test sites” that are recognized as of the effective date of the order and have an expiration date more than one year from the effective date of the order may remain recognized for one year from the effective date of the order. “2.948 listed test sites” that are recognized as of the effective date of the order but expire within one year of the effective date of the order will expire on their expiration date but may request a renewal to remain recognized until one year from the effective date of the order. FCC recognized “2.948 listed test sites” will be searchable on the FCC website for one year from the effective date of the order. Testing done by “2.948 listed test sites” within the transition period will be accepted in an application for certification if uploaded to the FCC EAS system within 15 months of the effective date of the order. Following the transition date all applications for certification will be required to be based on testing performed by a recognized accredited testing laboratory. A list of recognized accredited testing laboratories is provided at: https://apps.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm.
3 See 47 C.F.R. § 2.906. The party responsible for compliance is defined in 47 C.F.R. § 2.909.
5 See 47 C.F.R. § 2.907.
6 See 47 C.F.R. §§ 2.1077, 15.19(a)(3), and 18.209(b). Only Part 15 and 18 equipment is currently covered by DoC. For example, Part 15 devices subject to the DoC rules must be labeled with the following statement: “This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.” See also 47 C.F.R. §§ 2.1075 and 2.946 (describing circumstances in which the responsible party must submit to
A wide variety of devices are currently subject to the DoC procedures, including personal computers and peripherals, consumer ISM equipment such as microwave ovens, radio receivers, and TV interface devices.

Devices subject to the certification and DoC procedures are required to be tested to show compliance with the FCC technical regulations by a recognized accredited testing laboratory. In addition to EMC and radio transmitter testing the FCC technical regulations may require additional testing which includes, but is not limited to, testing for Hearing Aid Compatibility (HAC) and RF exposure testing. 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). A list of FCC-recognized accredited testing laboratories is published on the FCC Webpage.

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.

**Conformity Assessment Body.** A conformity assessment body (CAB) is a body that performs conformity assessment services. 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 within the scope of the designation.

**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

Organizations accrediting domestic testing laboratories (located in the U.S.) 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

the Commission records of the original design drawings and specifications, the procedures used for production inspection and testing, a report of RF emission measurements, the compliance information statement, and a sample of the device).

7 See 47 C.F.R. § 2.948(a).
10 ISO/IEC 17000, clause 2.6 and 5.6.
11 ISO/IEC 17000 (2004), clause 2.5.
12 ISO/IEC 17000 (2004), clause 7.3.
requirements for accreditation bodies accrediting conformity assessment bodies. Organizations accrediting testing laboratories in MRA partner economies are approved by the FCC recognized designating authority in the MRA partner economy.\(^{13}\)

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.\(^{14}\) An applicant must submit to the Chief of OET a request for 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:

(a) Successful completion of an ISO/IEC 17011:2004, “Conformity assessment – General requirements for accreditation bodies accrediting conformity assessment bodies” peer review, such as being a signatory to an accreditation agreement that is acceptable to the Commission\(^ {15}\)

(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.\(^ {16}\)

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

(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

\(^{13}\) In the APEC TEL MRA the term economy is used to indicate the country which is party to the agreement.

\(^{14}\) See 47 C.F.R. § 2.949. The FCC, in consultation with the Office of United States Trade Representative, is reviewing potential requirements and procedures for recognizing foreign accrediting bodies in non-MRA countries or allowing currently recognized accreditation bodies to accredit test firms in non-MRA countries. This guidance will be updated if such procedures are established.

\(^{15}\) Examples of laboratory accreditation body arrangements include: International Laboratory Accreditation Cooperation (ILAC) (http://www.ilac.org/ilacarrangement.html); the European cooperation for Accreditation (EA); the Asia Pacific Laboratory Accreditation Cooperation (APLAC); the Inter-American Accreditation Cooperation (IAAC); and the National Cooperation for Laboratory Accreditation (NACLA) (http://www.nacla.net/).

\(^{16}\) 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.
has recognized to perform accreditations. OET will pursue opportunities to observe peer review assessments 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 OET 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 the Certification and DoC procedures and may be used to test products to be authorized under the Verification procedure.

(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.17

(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 United States, 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:

(1) Evaluate the information submitted regarding the CAB.

(2) Make a determination on whether to recognize the CAB.

(3) Notify the designating authority of the decision on request for recognition.

(h) When reviewing a request to recognize a testing laboratory the FCC Staff will look for the following information:

(1) Procedure used by DA to designate the CAB.

(2) Name, location, mailing and contact information. The CAB shall be physically located in the country from which it is being designated.

(3) Designation number and FCC Registration Number (FRN).

(4) A statement as to whether the test site is available to do measurement services for the public on a fee basis.

(5) ISO/IEC 17025 Certificate of Accreditation. In cases where the accrediting body does not issue a certificate, equivalent information must be provided.

(6) The FCC rule sections the accreditation applies to.

(7) The FCC related test procedures the accreditation applies to (see tables 1 and 2).

(8) 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.

(9) 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.

(10) Compliance with Accredited Testing Laboratory Roles and Responsibilities.

(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 17025, General requirements for the competence of testing and calibration laboratories, with a scope covering the required measurements.

External Resources for Testing/ Subcontracting. When a testing laboratory uses external resources to perform testing, after the transition date, it is required that such testing be performed by testing laboratories that have also been recognized by the Commission as an accredited testing laboratory with the appropriate scope of accreditation.

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:
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 at: https://apps.fcc.gov/tcb. For more information, see https://apps.fcc.gov/oetcf/mra/reports/AccreditingBodyReport.cfm.
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. A testing laboratory is not required to be assessed and recognized for all scopes but for each scope in table 1 that a testing laboratory is recognized for, they must be assessed and compliant with all requirements within the scope. The accredited testing laboratory shall have the applicable standards included in their scope of accreditation from the list in table 1.

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

<table>
<thead>
<tr>
<th>Scope</th>
<th>Test Method(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part 15, Unintentional Radiators</td>
<td>ANSI C63.4-2014 <em>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</em></td>
</tr>
<tr>
<td>• CB Receiver</td>
<td></td>
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<tr>
<td>• Superregenerative Receiver</td>
<td></td>
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<tr>
<td>• All other receivers subject to part 15</td>
<td></td>
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<tr>
<td>• TV interface device</td>
<td></td>
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<tr>
<td>• Cable system terminal device</td>
<td></td>
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<tr>
<td>• Class B personal computers and peripherals</td>
<td></td>
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<tr>
<td>• CPU boards and internal power supplies used with Class B personal computers</td>
<td></td>
</tr>
<tr>
<td>• Class B personal computers assembled using authorized CPU boards or power supplies</td>
<td></td>
</tr>
<tr>
<td>Part 18, Industrial, Scientific, and Medical Equipment</td>
<td>FCC MP-5, (February 1986) <em>FCC Methods of Measurements of Radio Noise Emissions From Industrial, Scientific, and Medical Equipment</em></td>
</tr>
<tr>
<td>• Consumer ISM equipment</td>
<td></td>
</tr>
</tbody>
</table>

**Certification Testing.** The testing laboratory performing tests in support of the FCC’s Certification requirements shall be accredited to ISO/IEC 17025 with a scope of accreditation covering the regulations and measurement procedures listed in table 2. A testing laboratory is not required to be assessed and recognized for all scopes but for each scope in table 2 that a testing laboratory is recognized for, they must be assessed and compliant with all requirements within the scope. The accredited testing laboratory shall have the applicable standards included in their scope of accreditation from the list in table 2.

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20 See the FCC equipment authorization web page for links to the referenced measurement procedures: [http://www.fcc.gov/oet/ea/eameasurements.html](http://www.fcc.gov/oet/ea/eameasurements.html).

21 FCC 14-208 allows the use of ANSI C63.4-2014 when FCC 14-208 becomes effective and applies transition requirements that allow the currently accepted older versions of the standard to be used for a limited time.
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22 | 22 FCC 14-208 allows the use of ANSI C63.10-2013 when FCC 14-208 becomes effective and applies transition requirements that allow the currently accepted older version of the standard to be used for a limited time. |
22 | 22 |
| • Unlicensed Personal Communication Systems devices. | **Note:** In addition to IEEE 1528-2003 guidance for RF exposure evaluation is available from the FCC website through Knowledge Database Publications (KDB) at [www.fcc.gov/labhelp](https://apps.fcc.gov/oetcf/kdb/forms/FTSSearchResultPage.cfm?switch=P&id=47466). These are collectively referred to as the published RF exposure KDB procedures that provide RF exposure test and evaluation support for specific products, wireless technologies, test methodologies and equipment approval policies. See KDB 447498 for general RF exposure guidance and KDB 865664 for SAR measurement guidance. **KDB 447498**  
23 | 23 | 23 |
| Licensed Device Radio Service Rule Parts   | ANSI/TIA-603-D (2010), *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards*  
KDB 97116823 | 23 |
| RF Radiation Exposure                     | IEEE Std 1528™-2003, *IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques*  
IEEE Std 1528a™-2005 (Amendment to IEEE Std 1528™-2003), *IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques*  
Note: In addition to IEEE 1528-2003 guidance for RF exposure evaluation is available from the FCC website through Knowledge Database Publications (KDB) at [www.fcc.gov/labhelp](https://apps.fcc.gov/oetcf/kdb/forms/FTSSearchResultPage.cfm?switch=P&id=20676). These are collectively referred to as the published RF exposure KDB procedures that provide RF exposure test and evaluation support for specific products, wireless technologies, test methodologies and equipment approval policies. See KDB 447498 for general RF exposure guidance and KDB 865664 for SAR measurement guidance. **KDB 447498**  
24 | 24 | 24 | 24 |
| • portable devices subject to RF exposure requirements | **Part 20 Hearing Aid Compatibility (HAC)  
• Commercial mobile services** | 24 |
**KDB 285076**  
25 | 25 | 25 | 25 | 25 |

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22 FCC 14-208 allows the use of ANSI C63.10-2013 when FCC 14-208 becomes effective and applies transition requirements that allow the currently accepted older version of the standard to be used for a limited time.


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, FCC measurements procedure webpage or guidance found on the OET Knowledge Database (KDB).

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. 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 tests to show compliance with FCC regulatory requirements under the FCC Regulations contained in 47 CFR. 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 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 provided to the FCC is publicly available.

8. Radiated Emissions Test Facility

**Antenna Calibration.** Test laboratories performing radiated emission measurements and NSA measurements, as required by the FCC rules, are required to 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 (9 kHz to 40 GHz).*

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. 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 C63.4-2014 or ANSI C63.10-2013.

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27 See KDB Publication 822428. See ANSI C63.4-2014, clause 4.5 and ANSI C63.10-2013, clause 4.3 for guidance on the types of measurement antennas for use in making radiated emission measurements. See ANSI C63.4-2014, tables 1, 2, and 3 provide a summary of the types of antennas that may be used when making exploratory measurements, final compliance measurements, and site validation measurements, respectively. Antennas used for radiated emission measurements shall be calibrated in accordance with ANSI C63.5-2006.

28 See ANSI C63.5-2006 clause 4.3 for standard antenna calibration site requirements.
**Site Validation Requirements.** When using radiated emission test procedures that require the use of a validated test site (e.g., ANSI C63.4-2014 and ANSI C63.10-2013) the test site used shall meet the following site validation requirements:29

- Test facilities used to make radiated emission measurements from 30 MHz to 1 GHz are required to meet the site validation requirements in ANSI C63.4-2014.
- For radiated emissions 1 GHz to 40 GHz the test facility used can use either site validation option in ANSI C63.4-2014 clause 5.5. After the transition date the test facility is required to comply with the site validation requirements in CISPR 16-1-4:2010-04.

Validation of the acceptability criterion shall be confirmed no less than once every three years.

**Description of radiated emission test facility.** A description of the measurement facilities used by the testing laboratory are required to be maintained in accordance with Section 2.948(b).

**Compliance Testing Experimental Radio Licenses.** A test laboratory located in the United States or territory of the United States that performs testing in an open area test site is required to have a valid compliance testing experimental radio license per Subpart G of Part 5 of the rules30.

9. **Transition Period for New Measurement Methods**

The FCC rules provide for a transition period when new measurement standards are adopted, to allow time for an accredited testing laboratory to update their ISO/IEC 17025 scope of accreditation. Testing laboratories are required to update their scope of accreditation prior to the transition date established in the rules.31

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://apps.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm](https://apps.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.

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29 See KDB Publication 704992.

30 Compliance Testing Licenses will not become available until the FCC Experimental Licensing Branch establishes a mechanism to apply for and obtain these licenses. When these become available a public notification will be made and a transition period specified.

31 See Equipment Authorization Report and Order (FCC 14-208). A one-year transition period is provided for use of ANSI C63.4-2014 and ANSI C63.10-2013. A three-year transition period is provided for use of CISPR 16-1-4:2010-04 to demonstrate compliance with the site validation requirements from 1 GHz to 40 GHz.
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*

(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*

(d) ET Docket No. 13-44, Amendment of Parts 0, 1, 2, and 15 of the Commission’s Rules regarding Authorization of Radiofrequency Equipment (FCC 14-208).

CHANGE NOTICE

05/tbd/2015: 974614 DO2 Accredited Test Lab Roles and Resp v03 replaces 974614 D01 Accredited Test Lab Roles and Resp v02. Changes to the document include the following:

- Updated address for A2LA
- Updated name and contact for ACLASS
- Updated to incorporate changes required by FCC 14-208
  - Scope of accreditation and test methods
  - 2.949 Recognition of Test Firm Accreditation Bodies
  - Site validation requirements
  - Accredited laboratory required for all DoC and Certified Devices
  - Compliance testing experimental radio license