

**Federal Communications Commission  
Office of Engineering and Technology  
Laboratory Division**

April 4, 2017

**Draft Laboratory Division Publications Report**

**Reason:** Update reference to acceptable measurement standards.

**Publication:** 442401

**Keyword/Subject:** Radiated emission measurements for licensed radio service equipment

-----

**Question:**

What measurement procedures and test site parameters should be used for testing licensed radio service devices for Section 2.1053 radiated field strength, and radiated power (e.g., ERP, EIRP) when specified in the applicable licensed service rule?

**Answer:**

The basic requirements for the contents of an equipment authorization application for a licensed-service transmitting device are given in Section 2.1033(c). In particular, Section 2.1033(c)(14) specifies that all applications must contain test data for Sections 2.1046 through 2.1057, inclusive.

Section 2.1053 requires measurements of field strength of spurious radiation from a device. Besides Section 2.1053 test data, further to Section 2.911(c) additional radiated power test data may be required in certification applications where an applicable radio service rule specifies ERP, EIRP, or other types of radiated power limits.

The radiated emission measurement methods described in either ANSI C63.26-2015, *American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services*; TIA-102.CAAA-E-2016, *Project 25 Digital C4FM/CQPSK Transceiver Measurement Methods*; or ANSI/TIA-603-E-2016, *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards* may be used for performing compliance measurements for licensed equipment.

The relevant provisions of ANSI/TIA-603-E-2016 include 2.2.12 Unwanted Emissions: Radiated Spurious and 2.2.17 Radiated Power Output. For supporting compliance with the test site considerations of Section 2.1053(a), testing laboratories should also apply site configuration criteria such as given in 1.5.30 Standard Radiation Test Site (3 meter) of ANSI/TIA-603-E-2016, or similar considerations and provisions given in ANSI C63 documents.

The relevant provisions of ANSI TIA-102.CAAA-E-2016 include 2.26 Unwanted Emissions: Radiated and 2.2.10 Radiated Power Output; see 1.6.28 Standard Radiated Test Site (3 meter) therein for test site considerations.

Subclause 5.5 of ANSI C63.26-2015 provides measurement procedures for both the substitution method and the direct radiated field strength method; the test site specifications are provided in 4.6 of that document for both radiated emissions test methods.

Additional information on measurement procedures and test site requirements for compliance measurements of licensed radio service devices is given in KDB Publications 971168 and 414788.