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American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

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ANSI C63.10-2020
(Revision of ANSI C63.10-2013)

IEEE

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American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

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Secretariat

Institute of Electrical and Electronics Engineers, Inc.

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Abstract: The procedures for testing the compliance of a wide variety of unlicensed wireless transmitters (also called intentional radiators and license-exempt transmitters) including, but not limited to, remote control and security unlicensed wireless devices, frequency hopping and direct sequence spread spectrum devices, antipilferage devices, cordless telephones, medical unlicensed wireless devices, Unlicensed National Information Infrastructure (U-NII) devices, intrusion detectors, unlicensed wireless devices operating on frequencies below 30 MHz, automatic vehicle identification systems, and other unlicensed wireless devices authorized by a radio regulatory authority are covered in this standard. Excluded by this standard are test procedures for unlicensed wireless devices already covered in other published standards (e.g., Unlicensed Personal Communication Services (UPCS) devices).

Keywords: ANSI C63.10, compliance testing, intentional radiators, license-exempt transmitters, spread spectrum devices, test procedures, Unlicensed National Information Infrastructure (U-NII), unlicensed wireless devices

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Introduction

This introduction is not part of ANSI C63.10-2020, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

This standard provides procedures for testing the compliance of a wide variety of unlicensed wireless devices (transmitters). For information concerning those devices that are covered or not covered by this standard, see 1.2. Procedures for testing of some of these devices were previously provided in ANSI C63.4-2014,[1] but they will be removed in a future revision of that standard. The intention is to include all procedures in this standard for testing unlicensed wireless devices, except any devices excluded from the scope; for example, test procedures for Unlicensed Personal Communication Systems devices are addressed by ANSI C63.17-2013 [B5].[2]

[1] Information on references can be found in Clause 2.
[2] The numbers in brackets correspond to those of the bibliography in Annex N.

Contents

American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

1. Overview

1.1 Scope

This standard specifies U.S. consensus standard methods and instrumentation and test facilities requirements for measurement of radio frequency (RF) signals and noise emitted from unlicensed wireless devices (also called unlicensed transmitters, intentional radiators, and license-exempt transmitters) operating in the frequency range 9 kHz to 231 GHz. It does not include generic or product specific emission limits. It also does not cover measurement of radio emissions from unintentional radiators, as mentioned in 1.2. Where possible, the specifications herein are harmonized with other national and international standards used for similar purposes.

As described in 1.2 of this standard, measurement methods are provided for radiated and conducted emissions that can be generated by a variety of devices. For terms and phrases contained in the text that do not represent obvious or common usage, definitions are provided. In most cases, measurement instrumentation and calibration requirements, which should be used with this standard, are generally characterized in deference to standards dedicated to these subjects, which should be used in conjunction with this standard. Requirements for operation of test samples during measurements are presented for devices in general, as well as for specific types of devices that are frequently measured. Specific requirements for emission test data recording and reporting are presented with reference to general requirements contained in documents dedicated to standard laboratory practices, which should be used in conjunction with this standard. The main text is augmented by a series of annexes that provide details for certain measurement methods and facilities.

1.2 Purpose and applications

Various unlicensed wireless devices (also known as unlicensed transmitters, intentional radiators, and license-exempt transmitters) are subject to certain regulatory requirements. The primary way to show compliance in meeting regulatory requirements is by testing such devices in a repeatable and reproducible manner. This standard presents the methods of measurement to show compliance with the technical specifications for the majority of current wireless devices in wide use. It is not expected that all unlicensed wireless devices on the market will in fact be covered by this standard.

This standard does not consider test methods for unlicensed wireless devices already covered in other published standards, such as, but not limited to:

a) Unlicensed Personal Communications Services devices covered under ANSI C63.17-2013

b) Dynamic Frequency Selection (DFS) functionality required for U-NII devices in the United States