

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of

Amendment of Parts 0, 1, 2, 15 and 18 of the
Commission's Rules Regarding Authorization of
Radiofrequency Equipment

Comments Sought on Newly Published ANSI
C63.26-2015 Standard in Conjunction with
Ongoing Equipment Authorization Rulemaking
Proceeding

ET Docket No. 15-170

REPLY COMMENTS OF APPLE INC.

The record in this proceeding reflects widespread support for using the newly published ANSI C63.26 standard for licensed transmitters to demonstrate compliance with the Federal Communications Commission's ("Commission" or "FCC") technical requirements.¹ As commenters also have cautioned, however, "it may be premature to rescind, delete or revise some of the existing FCC measurement procedures" even though ANSI has now finalized this standard.² Apple agrees. In particular, the Commission should make one minor, but important, clarification when authorizing the use of ANSI C63.26 to ensure that industry will continue to

¹ See generally Ex Parte Comments of American National Standards Institute Accredited Standards Committee C63, ET Docket No. 15-170 (filed Feb. 26, 2016); Comments of Cisco Systems, Inc., ET Docket No. 15-170 (filed May 5, 2016) ("Cisco Comments"); Comments on Behalf of Cohen, Dippell and Everist, P.C., ET Docket No. 15-170 (filed May 5, 2016); TCB Council Comments, ET Docket No. 15-170 (filed May 5, 2016) ("TCB Council Comments"); Nokia USA Comments, ET Docket No. 15-170 (filed May 5, 2016) ("Nokia USA Comments").

² See TCB Council Comments at 3; Nokia USA Comments at 3. See also Cisco Comments at 3-4 (urging adoption of ANSI C63.26 but also "recommend[ing] that at this time the existing test procedures stay in the regulations to cover any corner cases the first version may have not fully addressed.").

benefit from the flexibility provided by the Office of Engineering and Technology's ("OET") longstanding guidance for testing licensed transmitters.

As ANSI C63.26 itself explains, the standard's authors intended it to "represent[] a consolidation and elucidation of [existing] procedures that were heretofore dispersed throughout a number of documents."³ Nevertheless, applying certain methodology set forth in ANSI C63.26 could triple the effort required to meet numerous test cases compared with the existing methods OET describes to demonstrate compliance with the Commission's technical rules. The Commission should avoid this outcome, which will needlessly impose substantial costs and potentially delay introduction of innovative devices to the market.

OET's testing guidance for licensed transmitters requires applicants to "[t]est at least one frequency in each band for each rule part applied under..."⁴ ANSI C63.26, in contrast, mandates that applicants with devices that include operating bands exceeding 10 MHz test three separate channels for that band.⁵ As a result, applying ANSI C63.26 rather than the relevant KDB guidance would in many cases triple the effort currently required to demonstrate compliance with FCC technical requirements. Indeed, this would be the case for numerous tests required for device certification, including output power, radiated power, power spectral density, band edge emissions, emissions mask, out-of-band emissions, peak-to-average ratio, and frequency stability.

³ See Institute of Electrical and Electronics Engineers, Inc., *American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services*, ANSI C63.26-2015 § 1.2 at 3 (published Jan. 15, 2016) ("ANSI C63.26").

⁴ Federal Communications Commission, Office of Engineering and Technology, Laboratory Division, *Frequency Range Listing for Certification Grants v04r01 (KDB 634817 D01)* at 3 (rel. Dec. 18, 2015).

⁵ See ANSI C63.26 § 5.1.2.1 at 24, Table 2.

ANSI C63.26 presumably included the three-channel testing requirement based on a parallel mandate in the ANSI C63.10-2013 standard that applies to unlicensed devices.⁶ To be clear, Apple has no objection to this mandate for unlicensed devices. Indeed, because Section 15.31(m) of the Commission’s rules specifically requires that applicants test unlicensed device frequency ranges exceeding 10 MHz at three different channels,⁷ the ANSI C63.10 standard must also include this provision to accurately reflect the Code of Federal Regulations.

Significantly, however, while the FCC’s rules contemplate a three-channel testing requirement for unlicensed devices, they do not include a corresponding requirement for licensed transmitters. And while ANSI C63.26 acknowledges that “[m]easurement of all modes and all channels is not always necessary to demonstrate compliance” with a regulatory authority’s requirements, this provision is—at best—ambiguous when read in the context of the standard’s pronouncement that devices *shall* test three channels for operating bands exceeding 10 MHz.⁸

Accordingly, consistent with the purpose of ANSI C63.26 to document procedures to meet existing regulatory requirements, the Commission should expressly confirm that entities

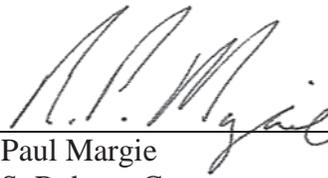
⁶ See *Amendment of Parts 0, 1, 2, 15 and 18 of the Commission's Rules Regarding Authorization of Radiofrequency Equipment*, Notice of Proposed Rulemaking, 30 FCC Rcd. 7725, 7764 ¶ 111 (2015) (observing that “[m]any products today incorporate both licensed and unlicensed transmitters and there may be value in providing for the same test method to be used for a device that is subject to technical requirements in different rule parts.”).

⁷ See 47 C.F.R. § 15.31(m).

⁸ See ANSI C63.26 §§ 5.1.2.1, 5.1.2.2 at 23-24. Indeed, while § 5.1.2.2 contemplates the use of streamlined test requirements at the regulatory authority’s discretion, this section discusses procedures for streamlining measurement of operational *modes* rather than *channels*. See *id.* § 5.1.2.2. at 24 (“A detailed technical rationale must be provided as justification for the selection of a subset of operational modes as being representative of ‘worst case’ conditions.”). Thus, to the extent that the Commission believes that § 5.1.2.2 could preserve the flexibility provided by its current testing guidance, it should, at minimum, indicate that it is interpreting the ANSI C63.26 language to enable applicants to submit a “justification for the selection of a subset of operational modes *and/or channels* as being representative of ‘worst case’ conditions.”

certifying licensed devices may continue to rely on OET's KDB guidance to test one frequency in each band for each rule part.⁹ Alternatively, if the Commission wishes to extend 47 C.F.R. § 15.31(m) to licensed as well as unlicensed devices, it should do so explicitly by issuing a separate rulemaking identifying and seeking comment on this proposed change.

Respectfully submitted,



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⁹ See *id.* § 1.1 at 2 (recognizing that “any test procedure identified for use by the national regulatory authority that differs from the provisions of this standard shall take precedence”).