

Date 06/06/2011	Document C63.4-2009
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National Committee	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
C63®	4.5.4	1	Technical	<p>In response to the explanation published by ANSI C63, dated February 17, 2011, of clause 8.3.2.2 of C63.4-2009 about the interpretation of “keeping the source of emission in the cone of radiation” it is unclear which antenna factor to use in order to calculate the test result. The explanation states that tilting of the antenna is required during the measurement process and a planar scan is not acceptable.</p> <p>ANSI C63.4-2009 includes ANSI C63.5 (undated) as a normative reference in clause 2 and states in clause 4.5 that all antennas shall be calibrated in accordance with ANSI C63.5. Since these references are undated the latest published revision of this standard, ANSI C63.5-2006, is to be used (see clause 2).</p> <p>In ANSI C63.5-2006 the only method to calibrate antennas in the frequency range above 1 GHz is the standard site method. This method however bore-sights the antennas horizontally only. Nowhere during the process is the antenna orientation changed such that tilting is implemented. All antenna factors are derived with a planar setup (i.e., without tilting).</p> <p>Commonly available literature clearly indicates that the antenna factor is dependent on the angle of incident of the field (e.g., W. Scott Bennet, “Control and Measurement of</p>	none	<p>As stated in C63.4-2009, section 4.5.4; “Linearly polarized antennas as specified in Table 1 and calibrated in accordance with ANSI C63.5 shall be used.”</p> <p>Free-space or near-free-space antenna factor shall be used. See C63.5-2006, section 3.3 or C63.5-2006, section 3.5 for definitions.</p> <p>Antennas above 1 GHz are calibrated on boresight. See C63.5-2006, section 3.5.1; “For horn antennas, both the transmitting and receiving antennas are operated at fixed equal heights of 2 m or more.”</p>

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				<p>Unintentional Electromagnetic Radiation” and other sources).</p> <p>Since the committee specifically stated that tilting of the antenna is required it is unclear how the antenna factor is to be derived and which antenna factor is to be used to determine the test result. The use of antenna factors derived by applying the current standard site method in C63.5-2006 will yield erroneous measurement results in case of tilting and may penalize test houses insofar that products may be determined to fail the established FCC limits, due to the application of the incorrect antenna factor.</p> <p>It is to be noted that a simple reference to future revision of C63.5-2006 or ANSI C63.4-2009 to address this matter is unacceptable since users of ANSI C63.4-2009 do have to apply the process based on the referenced interpretation right now.</p> <p>The committee is therefore asked to provide clear and unambiguous directions how to derive the antenna factor for the tilting activity to avoid erroneous test results.</p>		