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Document
C63.4-2009

National Committee	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
	4.2.2, 4.2.3, 5.1.2		Technical	<p>I would like to seek clarification on the specifications required for Spectrum Analyzers to be used for EMC measurement according to C63.4.</p> <p>In clauses 4.2.2, 4.2.3 & 5.1.2, the use of Spectrum Analyzers without preselection are permitted for EMC measurements provided it has the detector functions and bandwidths specified in ANSI C63.2 or CISPR 16-1-1 as well as having the required limit to noise ratio. However it is not clear whether the Spectrum Analyzer has to meet other critical requirements in C63.2 such as the Amplitude Accuracy, RF Sensitivity, Spurious Free Dynamic Range and Input VSWR.</p> <p>On the other hand, CISPR16-1-1:2010 also allowed the conditional use of Spectrum Analyzers for the EMC measurement according to CISPR product standards. CISPR requires the Spectrum Analyzer to meet all of the clauses in the CISPR 16-1-1 with special exception on the Quasi Peak detector PRF variation below 20 Hz and limitation to Intermodulation effect. Therefore the Spectrum Analyzer has to also meet the specifications such as Amplitude Accuracy, Input VSWR and Spurious Free Dynamic Range as well.</p> <p>1. Can you please list down the specifications from C63.2 that the Spectrum Analyzers have to meet in order to use it for EMC measurements according to C63.4?</p> <p>2. Are there any other requirements outside C63.2 that the Spectrum Analyzers have to meet as well?</p>		<p>Clause 4.2 of ANSIC63.4-2009 states that either the latest revision of ANSI C63.2 (which is 2009 at present) or CISPR 16-1-1:2007 are used for the definition of receiver specifications. This means that all of the specifications in either one of those standards are applicable.</p> <p>In ANSI C63.2 Table 1 summarizes the receiver specifications. For example, amplitude accuracy (line 13), RF sensitivity (line 5), and spurious-free dynamic range (line 9) are mentioned, but not the input VSWR. VSWR is specified in the last sentence of clause 3.2: "As was also specified in ANSI C63.2-1996, for this standard VSWR shall be less than 3:1 below 1 GHz, and less than 2:1 above 1 GHz."</p> <p>The raised questions are answered below:</p> <p>1) The specifications of ANSI C63.2 are listed in Table 1 and clauses 3.1 through 3.7. Please see that document for the details.</p> <p>2) The user will have to decide which standard and henceforth which set of requirements to meet and shall document the selected receiver standard in the test report</p> <p>If ANSI C63.2 is selected as the receiver standard then all of the requirements are called out in ANSI C63.2-2009 shall be met. Conversely, if CISPR 16-1-1:2007 standard is chosen then all those conditions shall be met.</p>

There was a follow-up set of questions from this requestor:

				Date	Document	
				02/28/2012	C63.4-2009	
National Committee	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
	4.2.2, 4.2.3, 5.1.2		Technical	<p>So there are 2 distinct types of instruments; one is an EMI Receiver and the other is a Spectrum Analyzer. The EMI Receiver can be either one that conforms to ANSI C63.2 or CISPR16-1-1. While the Spectrum Analyzer may not meet all the receiver requirements of either standards without any additional equipments.</p> <p>1) Am I correct to say that when using Spectrum Analyzers for EMI measurements according to ANSI C63.4, the Spectrum Analyzer needs to meet all the specifications of an EMI Receiver according to either ANSI C63.2-2009 or CISPR16-1-1 2007?</p> <p>2) Knowing that Spectrum Analyzers alone may not meet the EMI Receiver specifications in either standards (ANSI or CISPR), additional equipments (such as preselection, quasi peak detection and specific IF filters) are required in order to make the combination of equipments perform and meet the specification of either EMI Receiver, right?</p> <p>3) Without these additional equipments to make them compliant, Spectrum Analyzers which on their own cannot meet either of the EMI Receiver standards cannot be used for measurements according to ANSI C63.4?</p> <p>4) Spectrum Analyzers that meet the requirements of Spectrum Analyzer in CISPR16-1-1:2010 (<i>special exception on the Quasi Peak detector response for PRF variation below 20 Hz and limitation to Intermodulation effect</i>) cannot be used for measurements according to ANSI C63.4-2009 (because of the dated reference to CISPR16-1-1:2007)?</p> <p>5) Am I right to say that unlike CISPR16-1-1:2010, The ANSI C63 has not as of yet published a separate specifications for Spectrum Analyzers (which is different than the specifications of EMI receivers) to be used for measurements according to C63.4?</p>		<p>The subsequent questions are answered as follows:</p> <p>1) Yes, the spectrum analyzer shall meet the requirements as defined in clause 4.2.3 of ANSI C63.4-2009.</p> <p>2) Yes, as stated in ANSI C63.4-2009 clause 4.2.2, some characteristics shall be addressed to use a spectrum analyzer.</p> <p>3) Most likely, the specifications of the equipment used dictate if it is compliant or not.</p> <p>4) No, there are two documents used for receiver specifications; C63.2-2009 and CISPR 16-1-1:2007. C63.2-2009 lists CISPR 16-1-1 as an undated normative reference (clause 1). This means the latest revision (in this case CISPR 16.1.1:2010) is a normative reference for C63.2-2009 and thus it is usable. The dated reference in C63.4-2009 of CISPR 16-1-1:2007 is also usable.</p> <p>5) ANSI C63.2-2009 references CISPR 16-1-1 - undated - as a normative reference in clause 1. Therefore in the requirements in the CISPR standard are included in ANSI C63.2-2009 by reference. No additional requirements for spectrum analyzers were prepared by the ANSI C63 committee</p>

