



ANSI-ASC-C63[®] Interpretation Request Form

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Submission Date	Originator Name, Company
03/24/2016	Ehav Ever, HP Indigo

Standard	Clause / Sub clause	Paragraph Figure / Table	Type (General/ Technical/ Editorial)	Comment / Inquiry	Subcommittee Response (to be filled in by Subcommittee Chair)
ANSI C-63.4-2014	4.4 and 5.6		Technical	<p>I have a few questions concerning the use of a LISN for in-situ/on-site Conducted Emissions testing.</p> <ol style="list-style-type: none"> 1. Clauses 4.4 and 5.6 seem to have contradictory language concerning the use of a LISN for on-site testing. 2. In clause 4.4 it states “A voltage probe <u>may be used</u> for radio-noise voltage measurements when measurements are made at a user’s installation (see 5.6) or when the ac current level exceeds the current-carrying capability of commercially available LISNs.” Yet, in clause 5.6 it states “A voltage probe (see 4.4) <u>shall be used</u> for ac power-line conducted emission measurements (see IEEE Std. 139-1988 for additional information).” (I) Are the “user’s installation” mentioned in clause 4.4 and the “manufacturer’s premises” considered similar like in clause 5.6? 	<p>The answers to the comment/inquiry are numbered below corresponding to the number of the questions asked in the interpretation (highlighted in red font) in the comment/inquiry column</p> <ol style="list-style-type: none"> 1. Subclause 4.4 specifically does NOT allow use of a voltage probe in conjunction with a LISN. The present wording is satisfactory because 5.6 does provide the stricter requirement and does not contradict the words in 4.4. 2. For the purpose of this interpretation of in-situ testing, the following terms are basically synonymous: <i>manufacturer’s location, manufacturer’s premises, user’s installation, user installation, end user premises, on-site, on site, and in situ.</i> <p>Subclause 4.4 describes possible uses for voltage probes, and specifically allows use of a voltage probe at a user’s installation site, or for any equipment where the AC current level exceeds the current-carrying capability of commercially available LISNs. However, in 4.4 it is also stated that measurements made with a (commercially available) LISN take precedence.</p> <p>Regardless, the overall requirement is that the EUT shall be installed for testing as it is normally used.</p>

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ditto				<p>Further, when clause 5.6 states “Neither a reference ground plane nor a LISN shall be installed for user’s installation testing, <u>unless one or both are to be a permanent part of the installation.</u>” In what way would the LISN need to be a “permanent part of the installation”?</p> <ol style="list-style-type: none"> 1. Does this mean that the manufacturer’s premises would have to have the LISN bonded to the floor (connected to a single dedicated power system) and never moved or that the manufacturer’s location or the user’s installation would be required to have a fixed location solely for testing with the LISN always there? i.e. similar to being a test lab. 	<p>Subclause 5.6 is specifically titled “Testing at a manufacturer’s location or user’s installation (on-site/in situ testing).” The wording of 5.6 states that either of those two locations may be used if testing at an OATS or alternative test site cannot be used.</p> <p>If a reference ground plane or LISN is used for testing per 5.6, then the LISN or ground plane that was installed for the testing would have to be part of the final installation of every installation of that equipment as normally used.</p> <p>Simulating a test lab setup is not applicable, unless that is the normal-use configuration of the EUT</p> <ol style="list-style-type: none"> 1. Hence if the installation has a permanent ground plane and LISN, the LISN must be bonded to the ground plane so that the EUT can be connected for power through the LISN. The LISN can be located at any place on the ground plane that allows the EUT connection. This arrangement holds for both tests made at a manufacturer’s location or at the customer’s location.
ditto				<p>Lastly, in clause 4.4 it states “A LISN shall not be used in conjunction with a voltage probe for measurements at a user installation.”</p> <ol style="list-style-type: none"> 2. Does this mean that a LISN can be used for in situ as long as it is not in conjunction with a voltage probe? 	<ol style="list-style-type: none"> 2. No; if the final normal use condition of the EUT does not include the LISN always attached/installed, then a LISN cannot be used for in situ measurements, regardless of use of a voltage probe.