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Surge Withstand Test Procedure

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1.0 SCOPE

- 1.1 This document describes a procedure for subjecting a broadband device to surge conditions as specified in IEEE C62.41¹. Ports shall be tested in compliance with IEEE C62.41 Category B3 Combination Waveform or IEEE C62.41 Category A3 Ring Waveform as specified for the Device Under Test.

2.0 COMPLIANCE NOTATION

“SHALL”	This word or the adjective “REQUIRED” means that the item is an absolute requirement of this specification.
“SHALL NOT”	This phrase means that the item is an absolute prohibition of this specification.
“SHOULD”	This word or the adjective “RECOMMENDED” means that there may exist valid reasons in particular circumstances to ignore this item, but the full implications should be understood and the case carefully weighted before choosing a different course.
“SHOULD NOT”	This phrase means that there may exist valid reasons in particular circumstances when the listed behavior is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behavior described with this label.
“MAY”	This word or the adjective “OPTIONAL” means that this item is truly optional. One vendor may choose to include the item because a particular marketplace requires it or because it enhances the product, for example; another vendor may omit the same item.

¹ Normative Reference - IEEE C62.41-1991 “IEEE Recommended Practice for Surge Voltages in Low-Voltage AC Power Circuits”

3.0 DEFINITIONS

- 3.1 Combination Wave: Specified in paragraph 9.4.2 of IEEE C62.41. The 1.2/50-8/20 μs combination wave is defined by both an open circuit voltage waveform and a short circuit current waveform. The open circuit voltage waveform has a front time of 1.2 μs and duration of 50 μs (see Figure 1). The short circuit current waveform has a front time of 8 μs and duration of 20 μs (see Figure 2). The exact voltage and current waveforms delivered to the device under test are dependent on the generator and DUT impedance. See the IEEE practice Reference section for guidance in the selection of representative waveforms.

