

# Ethernet-APL Test Guide

**Test Type (Data or Power):** Power

**Test Name:** TL.2.4 Current Events

**Purpose/Description:** To verify that a Trunk Power Load properly regulates its usage of current steps and spikes during start up.

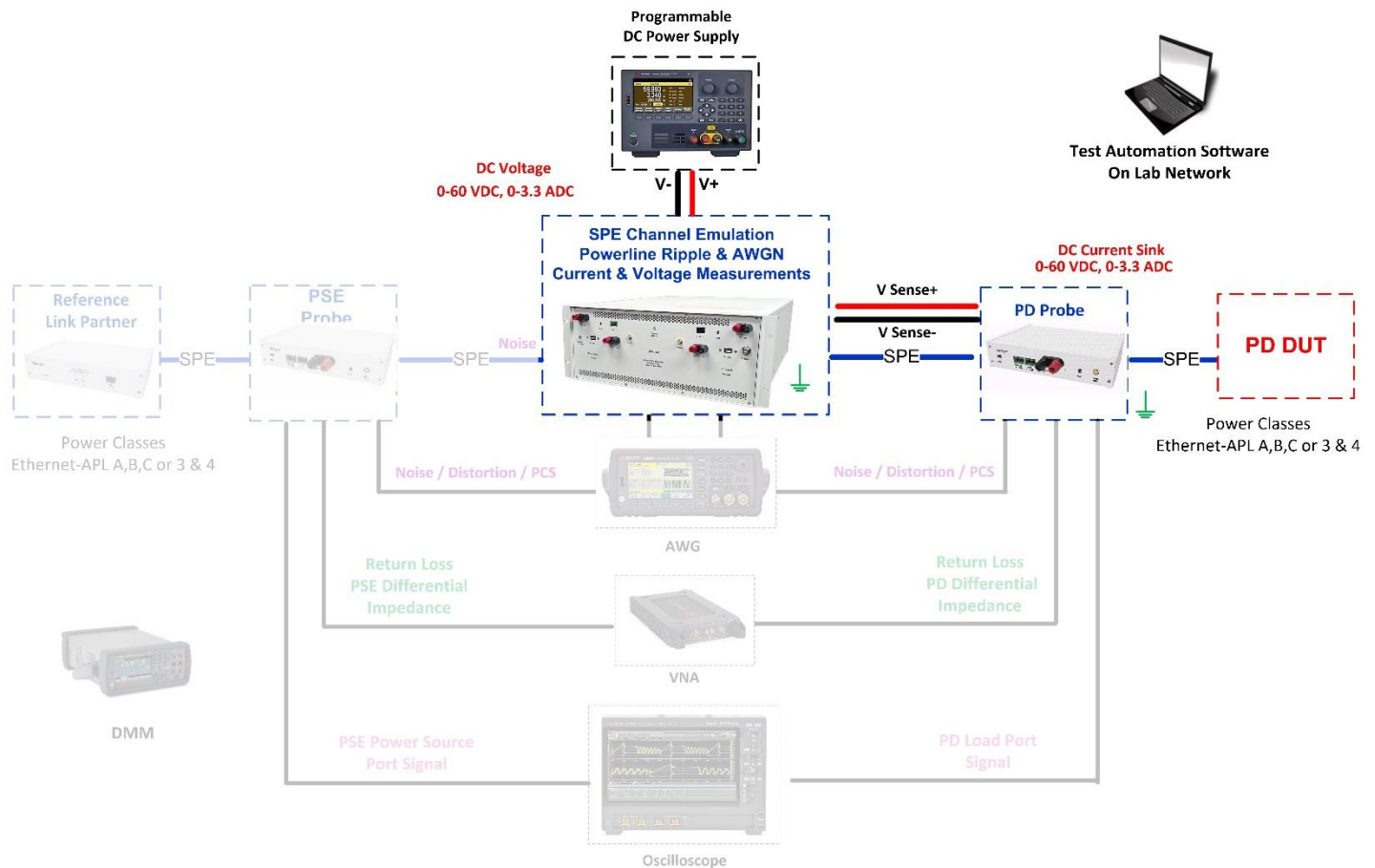
## Required Test Equipment:

1. PD Probe
2. 4950 Channel Emulator (for current and voltage measurements)
3. Programmable DC Power Supply (to power the PD Load DUT)
4. Test Automation Software

## Test Setup / Connection Diagram:



### Universal Test Setup for Combined PSE and PD Data & Power Conformance Testing Port Under Test PD



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## Device Under Test Setup:

- It is expected that all tests are performed with PHY communication abilities disabled. This is achieved by disabling Auto-Negotiation and setting the PHY to SLAVE mode. Regardless of the PHY state, each data line of the port under test shall be terminated with a 50 Ohm resistance behind a 1  $\mu$ F series capacitor in the Telebyte Probe.
- Enter the Power Class for the Device Under Test (Class 3) into the test automation software.

## Expected Results (Pass/Fail Criteria):

Step	Status	Description
6,7	PASS	a. The current steps have a maximum amplitude of 50 mA <b>and</b> b. All current spikes have a maximum charge of 20 $\mu$ C and c. No current spike causes the current consumption of the port under test to exceed IPS(MIN) for the port power class and d. There is a maximum of six current events in any sliding window of 1000 ms
6, 7	FAIL	At least one current step has a magnitude greater than 50 mA
6, 7	FAIL	In any sliding window of 1000 ms, there are more than six current events

## Notes:

## References:

[1] APL Port Profile Draft 1.2 Section 5.4