

Ethernet-APL Test Guide

Test Type (Data or Power): Power

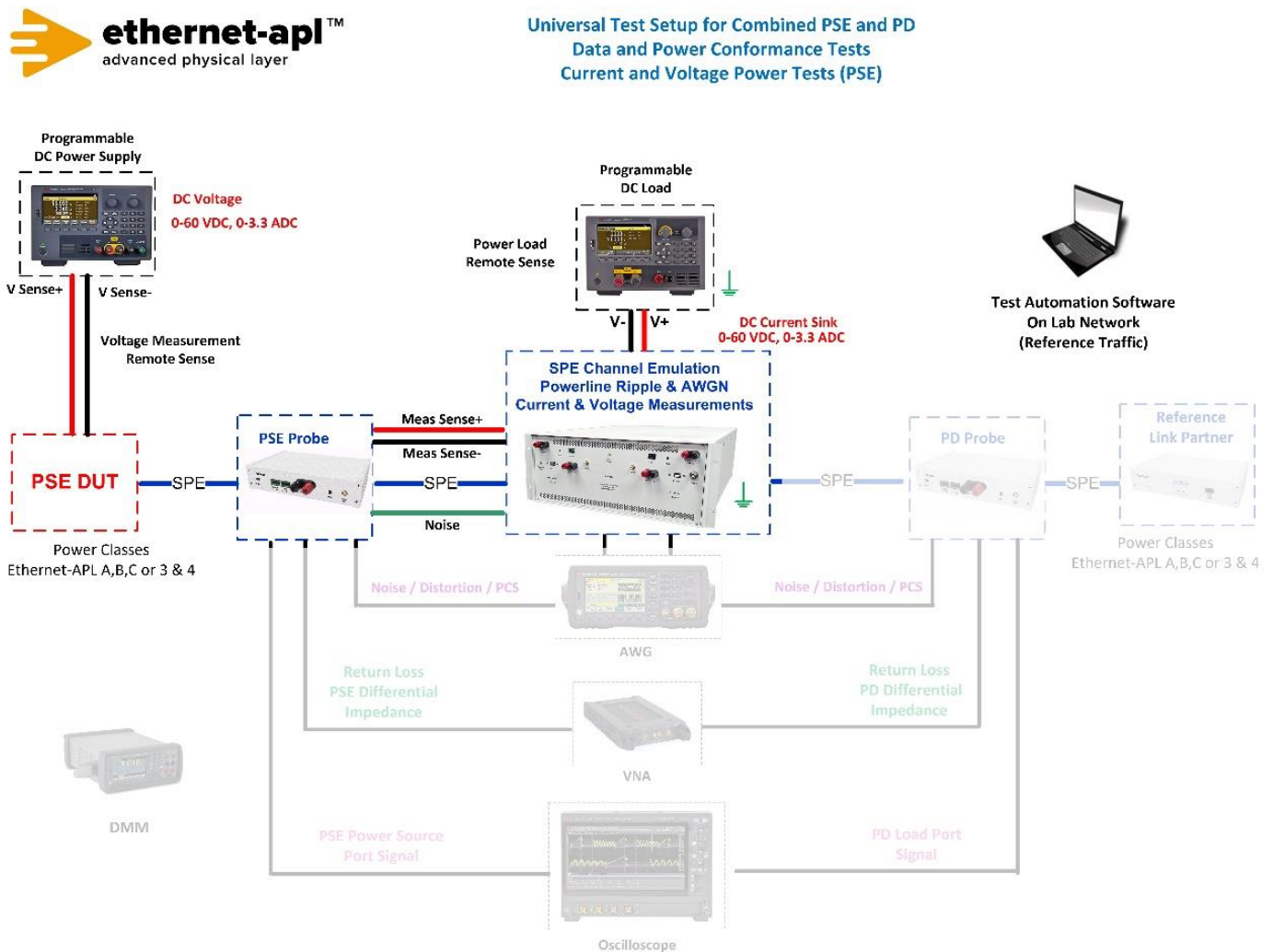
Test Name: SP.1.2 Powering Class Voltages

Purpose/Description: To verify that a Spur Power Source port asserts the proper voltage at the port interface under normal operating conditions. Minimum and Maximum Supply Voltage.

Required Test Equipment:

1. PSE Probe
2. DC Power Supply (To power the PSE Field Switch DUT)
3. Programmable DC Load
4. 4950 Channel Emulator
5. Test Automation Software

Test Setup / Connection Diagram:



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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 μ F series capacitor in the Telebyte Probe.
- Enter the Power Class for the Device Under Test (Class A, B or C) into the test automation software.

Expected Results (Pass/Fail Criteria):

Step	Status	Description
5	PASS	U_{PS} is between $U_{PS}(\text{MIN})$ and $U_{PS}(\text{MAX})$ at any time during the test with a current load draw of $I_{PS}(\text{MIN})$ with a minimum supply voltage
5	FAIL	U_{PS} is not between $U_{PS}(\text{MIN})$ and $U_{PS}(\text{MAX})$ at any time during the test with a current load draw of $I_{PS}(\text{MIN})$ with a minimum supply voltage
7	PASS	U_{PS} is between $U_{PS}(\text{MIN})$ and $U_{PS}(\text{MAX})$ at any time during the test with a current load draw of 20mA
7	FAIL	U_{PS} is not between $U_{PS}(\text{MIN})$ and $U_{PS}(\text{MAX})$ at any time during the test with a current load draw of 20mA
9	PASS	U_{PS} is between $U_{PS}(\text{MIN})$ and $U_{PS}(\text{MAX})$ at any time during the test with a current load draw of 20mA with a maximum supply voltage
9	FAIL	U_{PS} is not between $U_{PS}(\text{MIN})$ and $U_{PS}(\text{MAX})$ at any time during the test with a current load draw of 20mA with a maximum supply voltage
11	PASS	U_{PS} is between $U_{PS}(\text{MIN})$ and $U_{PS}(\text{MAX})$ at any time during the test with a current load draw of $I_{PS}(\text{MIN})$
11	FAIL	U_{PS} is not between $U_{PS}(\text{MIN})$ and $U_{PS}(\text{MAX})$ at any time during the test with a current load draw of $I_{PS}(\text{MIN})$

Notes:

[1] APL Port Profile Draft 1.2 Section 5.4 575

[2] Ethernet-APL_Power_Test Specification_v1.5

This test is recommended for iterations over temperature and system-level loading