CISCO The bridge to possible

802.3da PD Load Transient Test
Protecting the Mixing Segment's Power Integrity

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Comment 245 Motivation

- Table 189-9 added a maximum MPD current slew rate dI/dt specification but did not detail how to properly test for compliance

- The goal of the test is to evaluate the MPD's load current waveform in isolation against the limit

- The limit was chosen to ensures that a fully populated mixing segment won't experience excessive ripple due to constructive interference from multiple MPD load transients.

- Clause 104 has already handled this, no need to reinvent the wheel

Comment 245 Proposed Text

- Leveraged from 104.5.7.4
  - Made nomenclature changes
    - MDI → TCI
    - PD → MPD
    - PI → MPI
  - Dropped per-type test procedure detail
  - Dropped probe impedance and transfer function details

<Note to Editor: Please insert as new section after Table 189-9 but before 189.5.5.1 and renumber accordingly)

189.5.5.1 ~~PD~~MPD ripple and transients

The specifications for ~~ripple and transients~~MPD current slew rate dI/dt in Table ~~104 11~~189-9 ~~apply applies~~ to the voltage or current at the ~~PD~~MPD ~~PI~~MPI generated by the ~~PD~~MPD circuitry. ~~Ripple and t~~Transient limits are provided to preserve data integrity.

The ~~PD~~MPD DUT is connected to a power supply through a dc bias coupling network as shown in Figure 189-x~~104 9~~. The ripple and transient specifications for a Type ~~A 0~~or Type ~~C 1~~ ~~PD~~MPD shall be met for all operating voltages in the range of V$_{PDPort MPD}$ sourced through a dc bias coupling network with ~~MD~~TCI return loss as specified by Equation (~~96 12~~188-4), and over the range of P$_{PDMPD}$. A digital oscilloscope or data acquisition module with a differential probe is used to observe the voltage at the TCI/MPI.
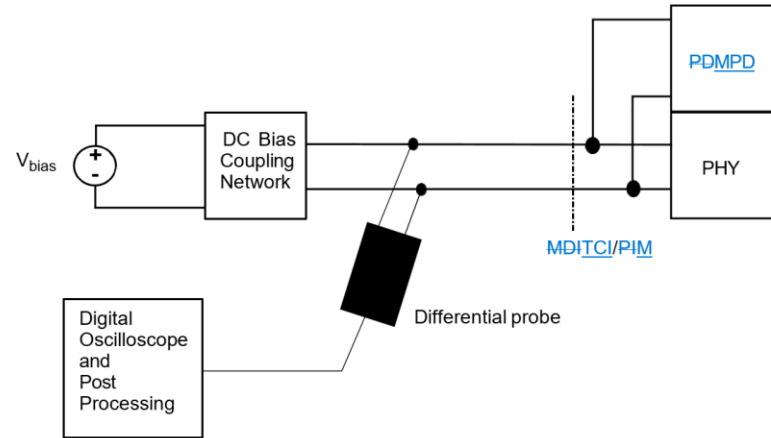

Figure 1~~89-x~~04 9—~~PD~~MPD ripple voltage test fixture