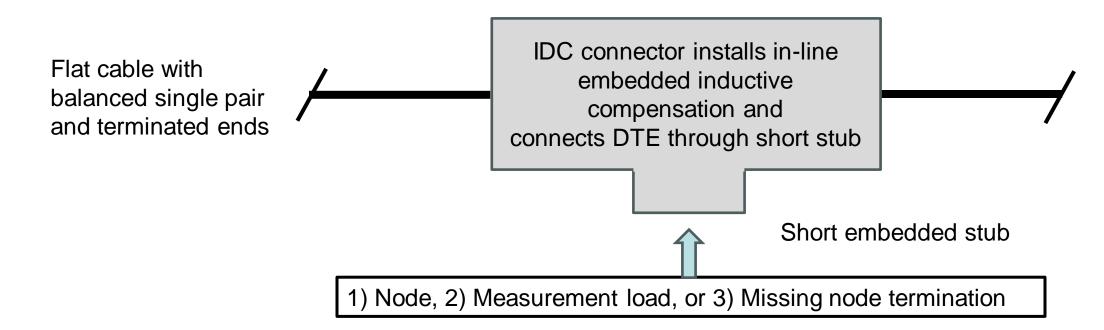# IEEE P802.3da
Baseline for RL for TC1 and TC2

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Background

- ## ODVA specified a solution compliant with 10BASE-T1S
  - Up to 40 nodes at any location on 25 m cable
  - Includes compensating inductors

Flat cable with balanced single pair and terminated ends

IDC connector installs in-line embedded inductive compensation and connects DTE through short stub

Short embedded stub

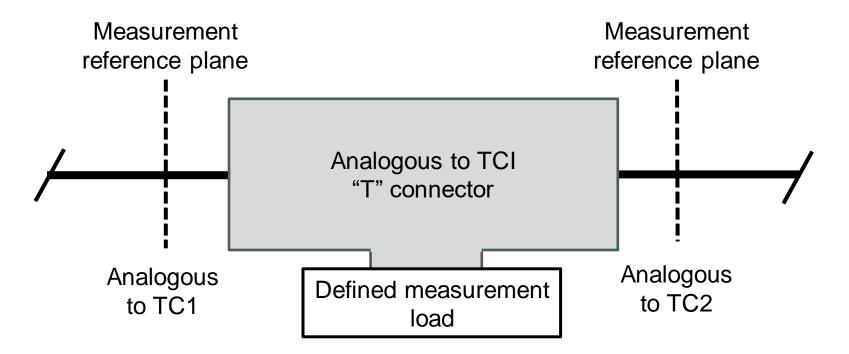1) Node, 2) Measurement load, or 3) Missing node termination

Purpose

- 10BASE-T1M has evolved toward similarity to the ODVA system

- Propose adoption of RL matching ODVA specifications as an initial baseline for 10BASE-T1M

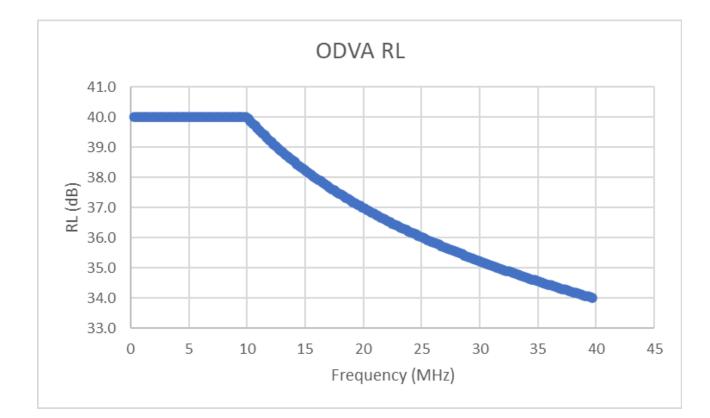- IL and MC may also be considered

ODVA RL for Connector

- "Volume 2: EtherNet/IP Adaptation of CIP, Chapter 8: Physical Layer", Edition 1.33, November 2023
  - RL measured looking into connector from each reference plane with other reference plane terminated in 100 Ω

Measurement reference plane   Measurement reference plane

Analogous to TCI "T" connector

Analogous to TC1

Defined measurement load

Analogous to TC2

ODVA RL for Connector

40 – 10 * log10(f / 10), 40 max.
0.3 ≤ f ≤ 40, f is frequency in MHz

QUESTIONS?