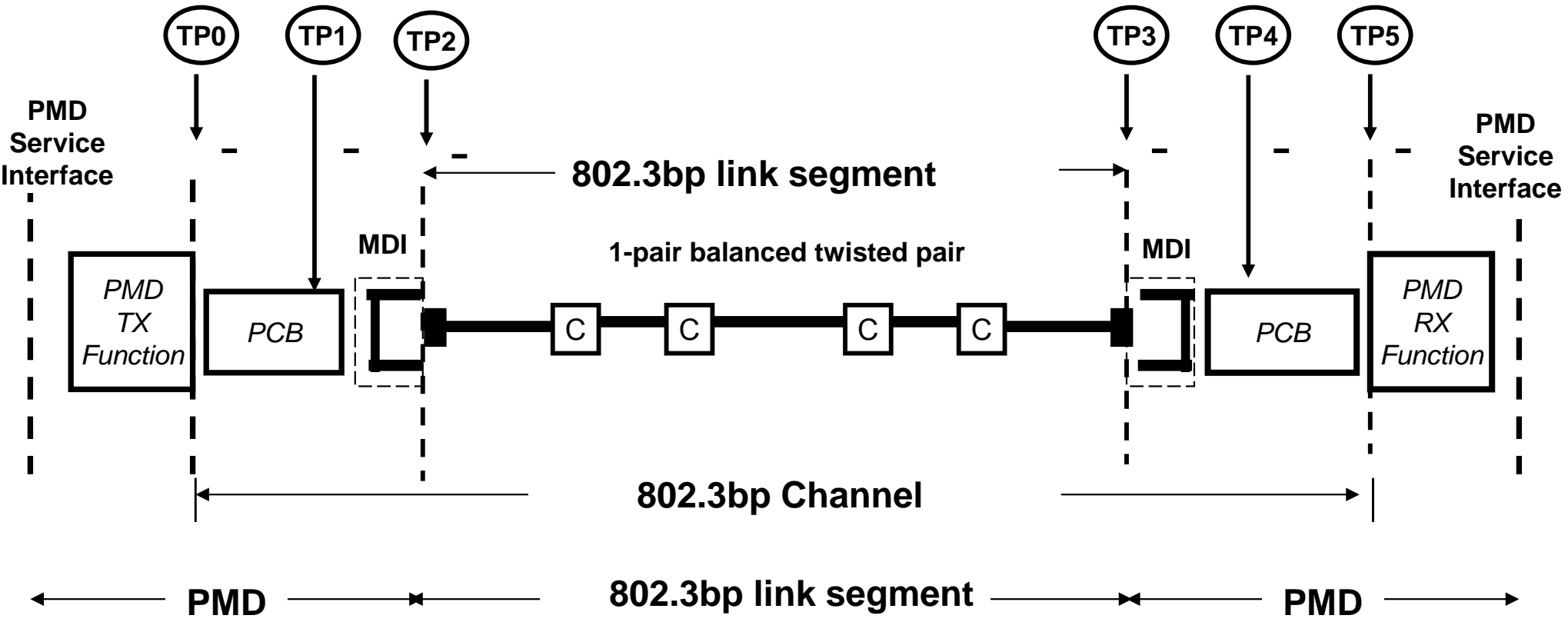

802.3bp test points

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Presentation objectives

- **802.3bp test points and parameters**

802.3bp test points

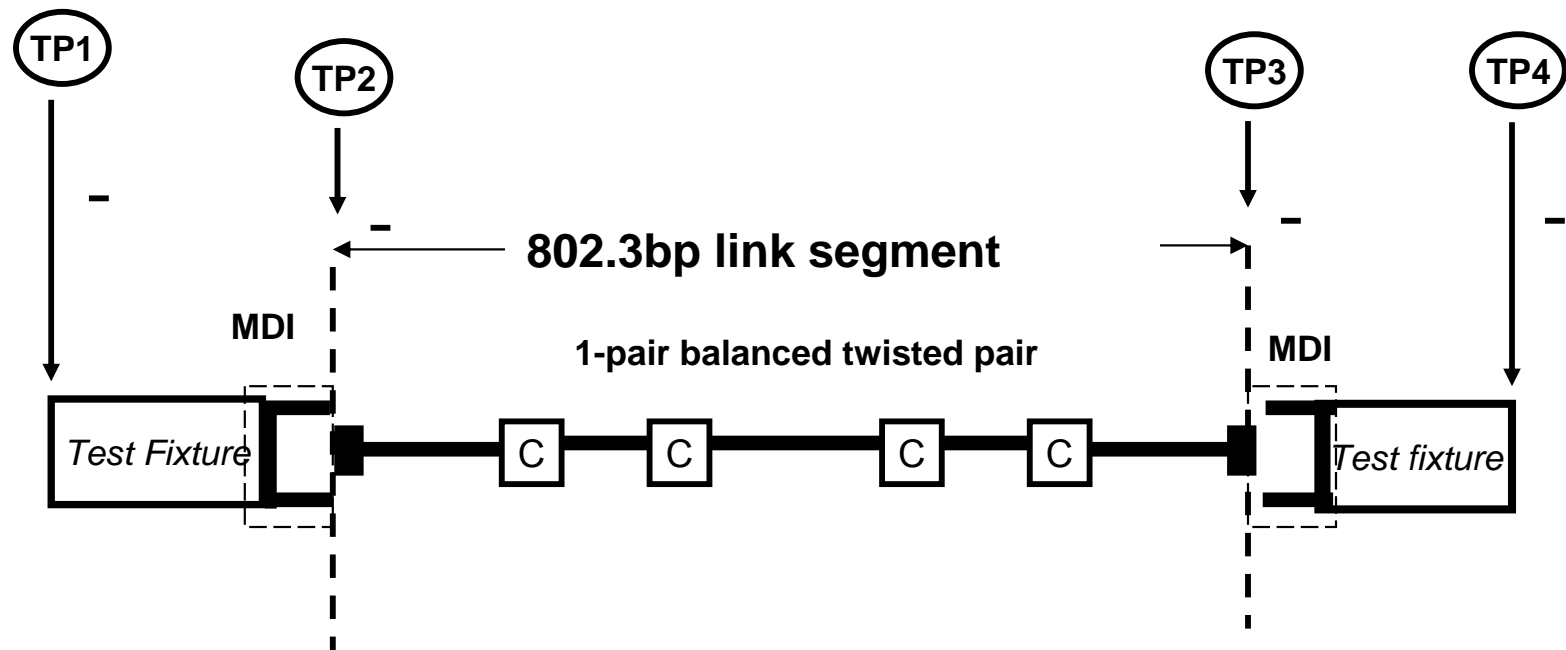


1000BASE-Tx link (one direction is illustrated)

1000BASE-Tx test points

Reference	Description
TP0-TP5	The 1000BASE-Tx channel including the transmitter and receiver differential controlled impedance printed circuit board insertion loss, the MDI, and the link segment insertion loss.
TP1-TP4	The test fixture specified in 98(TBD) is required for measuring the link segment specifications in 98.4.4 at TP1 and TP4.
TP2-TP3	The link segment specifications in 98.4.4 are referenced to TP2 and TP3.
TP2	Transmitter measurements defined in 98(TBD) are made at TP2 utilizing the test fixture specified in 98(TBD).
TP3	Transmitter measurements defined in 98(TBD) are made at TP3 utilizing the test fixture specified in 98(TBD).

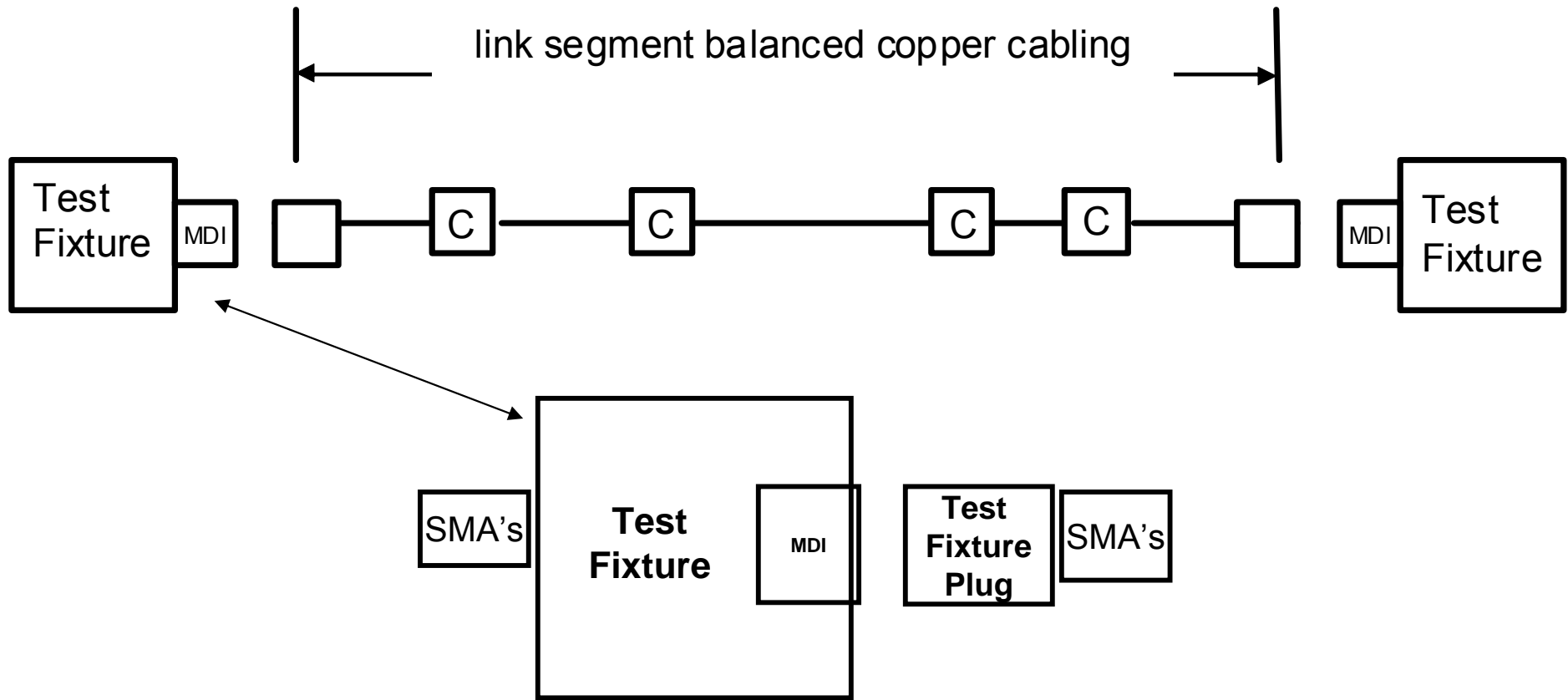
802.3bp link segment



Link segment transmission and coupling parameters – TP2-TP3

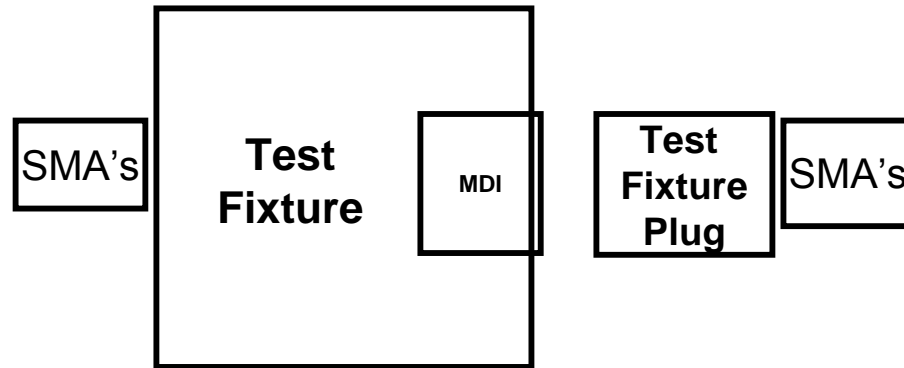
- Insertion loss
- Return loss
- Common to differential conversion loss (SDC12/SDC21) (UTP)
- Alien Crosstalk
 - PSANEXT, PSAACRF

RTPGE Test Fixtures



Specified in a mated state

RTPGE Test Fixtures



Specified in a mated state

- Insertion loss
- Return loss
- Common to differential conversion loss (SDC12/SDC21)
- Common to differential conversion loss (SDC11/SDC22)

- Alien Crosstalk (between MDI's)
 - PSANEXT, PSAFEXT

Backup

Link segment transmission parameters (UTP)

Link segment transmission and coupling parameters (UTP)

- Insertion loss
- Return loss
- Alien Crosstalk
 - PSANEXT, PSAACRF
- Common to differential conversion loss (SDC12/SDC21)

• Insertion loss

- Amended Motion #2 - Move that The IEEE P802.3bp Task Force affirms the proposed
- Baseline IL Channel Performance for link segment insertion to establish the absolute
- value across the frequency range through 600MHz. (herman_3bp_01_0913.pdf)
- Technical 75%
- Vote
- Y: 25 N: 0 A: 4
- MOTION: Passes

Link segment transmission parameters (UTP)

• Alien Crosstalk -PSANEXT, PSAACRF

Motion #8 - Move that The IEEE P802.3bp Task Force affirms the proposed Baseline PSANEXT (in slide 11 in herman_3bp_01_0913.pdf) and PSAACRF (in slide 13 in herman_3bp_01_0913.pdf) for link segment specification over frequency range 1MHz - 600MHz. (alien crosstalk configuration in

http://www.ieee802.org/3/bp/public/jul13/moffitt_3bp_01_0713.pdf)

M: Todd Herman S: Xiaofeng Wang

Technical 75%

Vote

Y: 18 N: 1 A: 10

MOTION: Passes

PSANEXT

from 1 to 100 MHz

$$\text{PSANEXT} := 60 - 10 \cdot \log\left(\frac{f}{100}\right)$$

from 100 to 500 MHz

$$\text{PSANEXT} := 60 - 15 \cdot \log\left(\frac{f}{100}\right) - 6 \cdot \left[\frac{(f - 100)}{400}\right]$$

PSAACRF

$$\text{PSAACRF} := -20 \cdot \log\left(10 \left(\frac{-10 \cdot \log\left(\frac{15}{100}\right) + 38.2 - 20 \cdot \log\left(\frac{f}{100}\right)}{-20} + 4 \cdot 10 \frac{67 - 20 \cdot \log\left(\frac{f}{100}\right)}{-20} \right)\right)$$

where

f := frequency_in_MHz ID test points

Link segment transmission parameters (UTP)

•Return Loss

Frequency range	Requirement
1-10 MHz	19 dB
10-40 MHz	$24-5\log(f)$ dB
40-130 MHz	16 dB
130-400 MHz	$37-10\log(f)$ dB
400-600 MHz	11 dB

Motion #2: Move that the IEEE P802.3bp Task Force affirms that proposed RL specifications for the automotive link segment in herman_3bp_01_1113.pdf for inclusion in the 802.3bp baseline specification.

Moved by: Xiaofeng Wang

Seconded by: Mehmet Tazebay

Technical 75%

Link segment transmission parameters (UTP)

- Mode conversion

Frequency, MHz

$$- 50_{\text{dB}} \quad 10 < f_{\text{MHz}} < 80$$

$$[5 \log_n (f_{\text{MHz}}) - 72]_{\text{dB}} \quad 80 < f_{\text{MHz}} < 600$$

Motion #3: Move that The IEEE P802.3bp Task Force affirms the proposed Mode Conversion limit line for the automotive link segment in Slide # 13 of tazebay_3bp_01a_0913.pdf for inclusion in 802.3bp baseline specification.

Moved by: Mehmet Tazebay

Seconded by: Gary Yurko

Technical 75%

Y: 33 N: 0 A: 5

MOTION: Passes