Proposed text for MDI Return Loss

Ragnar Jonsson – Marvell

Ahmad Chini - Broadcom

Text Proposal

2XX.Y.1 MDI return loss

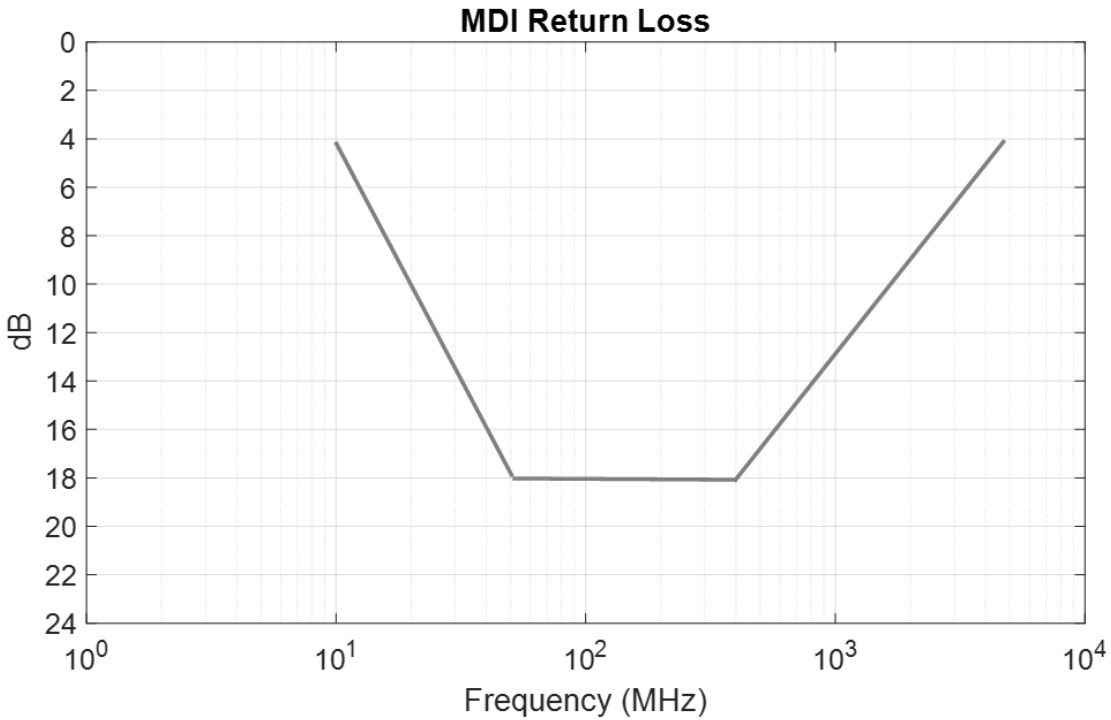
The differential impedance at the MDI for each transmit/receive channel shall be such that any reflection due to signals incident upon the MDI from the cabling relative to the incident signal are per the relationship shown in Equation (2XX.Y-1). For balanced cabling a nominal differential characteristic impedance of 100Ω is used, and for coaxial cabling a nominal characteristic impedance of 50Ω is used.

$$MDI\_Return\_Loss(f) > \left\{ \begin{array}{cc} 18 - 20log_{10}(\frac{f}{50}) & 10 \leq f < 50 \\ 18 & 50 \leq f < 400 \\ 18 - 13log_{10}(\frac{f}{400}) & 400 \leq f \leq F_{max} \end{array} \right\} (dB) \qquad (2XX.Y\text{-}1)$$

where f is the frequency in MHz.

For 2.5G/100MBASE-T1, 5G/100MBASE-T1, and 10G/100MBASE-T1, the maximum applicable frequency, F_{max}, for the MDI return loss is 4000MHz.

The MDI return loss for 10G/100MBASE-T1 is illustrated in Figure 2XX-1.



Note to the editor: F_{max} should scale with baud rate once the transmit signals have been established

Motion

Move to adopt MDI Return Loss Limit proposal on slide 2 of jonsson_chini_3dm_01_11_13_24.pdf with editorial license.

M: Ragnar Jonsson

S: Ahmad Chini