Comment #76. SC 33.4.8 Page 87 Line 51

We are doing the same mistake we did in the past in which the 350uH adhoc was formed to resolve by allowing the droop method (implementation independent) as alternative to the OCL (specific implementation). In order to achieve 350uH (or its equivalent droop numbers) operation when Type 2 100BT ALT A Midspan is connected we forced implementation (regulating Iunb to Type 1 levels) instead of specifying the Midspan output TX signal requirements so legacy receivers in the Switch will work.

SuggestedRemedy

Set the Midspan ad hoc to discuss it and propose a solution. See attached file "Midspan 100BT ALT A TX output signal template" with possible alternative.

SEE BELOW PROPOSED ALTERNATIVE

Proposed Solution :

1. Change from:

33.4.8 100BASE-TX transformer droop

100BASE-TX systems may contain a legacy PHY receiver that expects to be connected to a PHY transmitter with 350 μ H open circuit inductance (OCL). Alternative A Type 2 Midspan PSEs that support 100BASE-TX shall ensure at least one of the following requirements:

- a) channel unbalance currents less than or equal to Type 1 Iunb (see Table 33– 11).
- b) meeting the requirements specified in 33.4.9.2.1

Change 33.4.9.2 per the following updates

33.4.9.2 Type 1 Midspan signal path requirements

An Alternative A Type 1Midspan PSE transfer function gain shall be greater than that expressed by Equation (33–18) for the frequency range from 0.1 MHz to 1 MHz, at the pins of the PI used as 100BASE-TX transmit pins.

$$-0.100 + 37.5 \cdot \log_{10} \left(\frac{22.4 \cdot f}{\sqrt{1 + 521 \cdot f^2}} \right)$$
(33-18)

where

f is the frequency expressed in MHz.

Additionally, the requirements will be met with a DC bias current, Ibias, between 0 mA and (0 + Iunb / 2) mA (Iunb is defined in Table 33–11).

33.4.9.2.1 Type 2 Midspan signal path requirements

An Alternative A Type 2 Midspan PSE transfer function gain, that is not regulating the channel unbalanced current, Iunb to Type 1 levels, shall be greater than that expressed by Equation (33–18a) for the frequency range from 0.1 MHz to 1 MHz, at the pins of the PI used as 100BASE-TX transmit pins.

$$\left\{8.880 + 20 \cdot \log_{10} \sqrt{\frac{(227.0 \cdot f^2 + 1)}{(1932.0 \cdot f^2 + 1)}}\right\}_{dB}$$
 (33-18a)

where

f is the frequency expressed in MHz.

Additionally, the requirements will be met with a DC bias current, Ibias, between 0 mA and (Iunb / 2) mA (Iunb is defined in Table 33-11).

33.4.9.2.1 33.4.9.2.2 Alternative A Midspan PSE compliance test setup