Changes from May 2008 meeting:

1. The setup was updated to reflect all types of Midspan implementation (transformers or autotransformers) in order to ensure that the device is tested under DC bias current.

33.4.8.2 Midspan signal path requirements

An Alternative A Midspan PSE transfer function gain
shall be greater than expressed by equation 33-14 for the frequency range f, at the pins of the PI used as 100BASETX transmit pins:

$$\left\{-c+37.5\cdot LOG_{10}\left(\frac{a\cdot f}{\sqrt{1+b\cdot f^{2}}}\right)\right\} \qquad 33\text{-}14$$

$a = 22.40$

$b = 520.5$

$c = 0.1000$

$0.1MHz \le f < 1MHz$

where

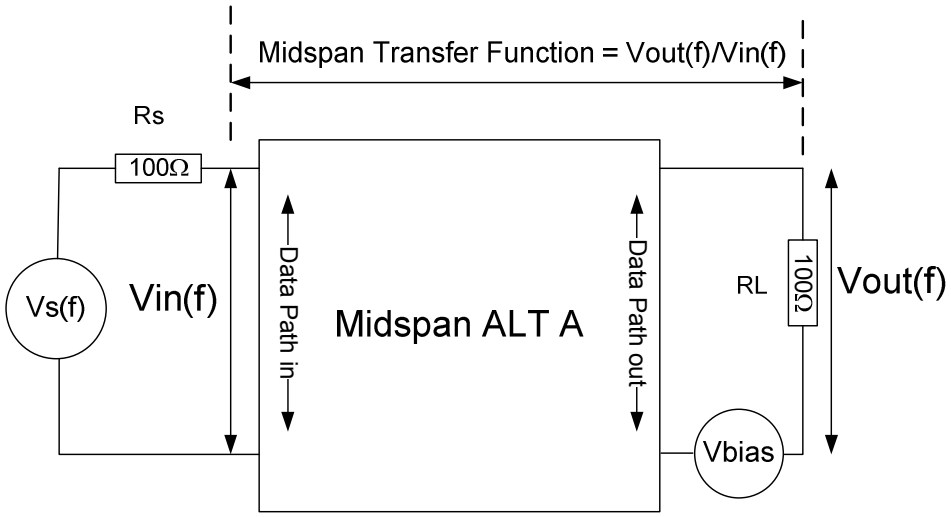
f is the frequency expressed in MHz.

Additionally, the requirements will be met with a DC bias current, Ibias between 0 mA and {0 + 0.5*Iunb mA} (Iunb is defined in Table 33–9).

33.4.8.2.1 Alternative A Midspan PSE Compliance test setup

Compliance testing shall be performed by applying test signal to the Midspan PSE signal input with a source impedance of 100 Ω ± 1 %. The Midspan PSE signal input and output may be connected to a 0.5 m max length of CAT5 cable, terminated with 100 Ω ± 1%.

The transfer function shall be measured from the output termination to the signal input. See figure 33-24-1.



- Vin(f) is the Sine wave signal to be used to measure the Midspan TF.
- Vbias is the DC offset voltage to be applied in series to RL in order to generate Ibias.
- Vout (f) is the Midspan response to Vin(f)

Figure 33-24-1. Measurement Setup For Alternative A Midspan PSE Transfer Function