33.4.8.2 Alternative A Midspan PSE signal path requirements

~~When an~~An Alternative A Midspan PSE ~~is connected to a 100BASE-TX PHY, the Midspan~~ transfer function gain
shall be greater than expressed by equation 33-14 for the frequency range f, ~~the below expression from 100 kHz to 1 MHz~~ at the pins of the PI used as 100BASETX transmit pins:

~~$\{ 1.6 \log_{10}\left(\frac{0.251188}{f}\right)_{dB}$~~

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

$a = 22.40$

$b = 520.5$

$c = 0.1000$

$0.1MHz \le f < 1MHz$

where

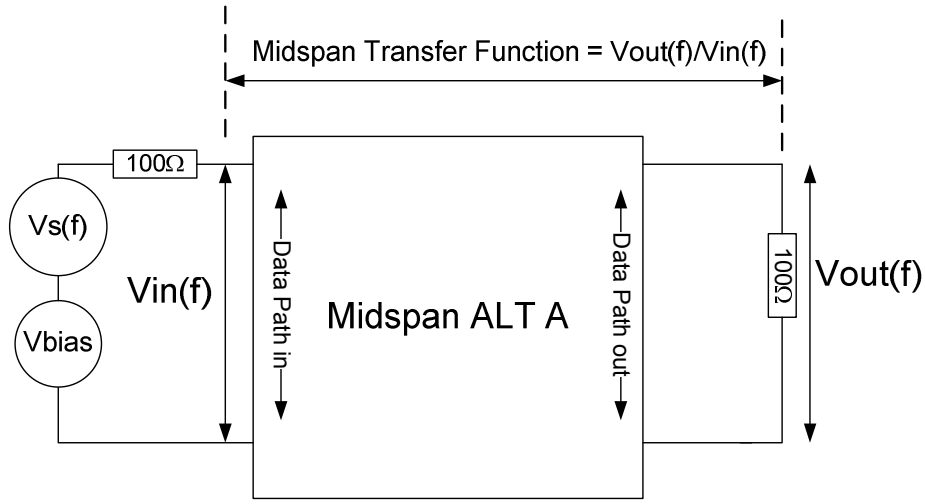
f is the frequency expressed in MHz.

Additionally, the requirements will be met with a DC bias current, Ibias between 0 mA and {TBD+0.5*Iunb mA~~Ma~~}. ~~(~~Iunb is defined in ~~see~~ 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 ~~through~~ a source impedance of 100 Ω ± 1 % . The Midspan signal input and output shall ~~will~~ be connected ~~to~~ with no more than ~~a~~ 0.5 m length ~~± 10 %~~ CAT5 cable, terminated with 100 Ω ± 1%.

The transfer function ~~will~~ shall ~~-~~be measured from the output termination to the signal input.~~test signal source.~~ 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 superimposed on the Sine wave 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