

Crosstalk Issues with 99-111r3

3% crosstalk using 1600 mV Peak-Peak is for the test load or 110 ohm cables allows 48 mV crosstalk.

Current mode drivers will have higher voltage with the 140 ohm cables allowed in 99-111r3.

140 ohm cables, the current mode driver will develop 2054 mV peak-peak, 3% crosstalk is 62 mV, over the SPI-3 60 mV limit for crosstalk and system noise.

It should be 2% crosstalk on 140 ohm cable is 41 mV, 60 mV is all that is allowed for the SPI-3 budget.

Rise time comments

1 ns rise time is allowed in the SPI-3 standard, with several people leaning toward 0.5 ns for SPI-4.

The cable test is at 0.5 ns versus the 1 ns rise time in the standard.

140 ohm cable going into a loaded backplane of 85 ohms will give a 65% reflected wave which could add to the rise time. 0.5 ns leaves a little margin with the 1 ns driver minimum with a reflected wave of 65% adding to the signal.

Changes to 99-111r3



2% crosstalk on 140 ohm cable is 41 mV crosstalk.

2% crosstalk is required for 140 ohm cables.

3% crosstalk on 110 ohm cable is 48 mV crosstalk.

3% crosstalk can be allowed for 110 ohm cables. The driver amplitude is lower and the reflected wave is smaller.