PI3EQX12902B PCIE re-driver

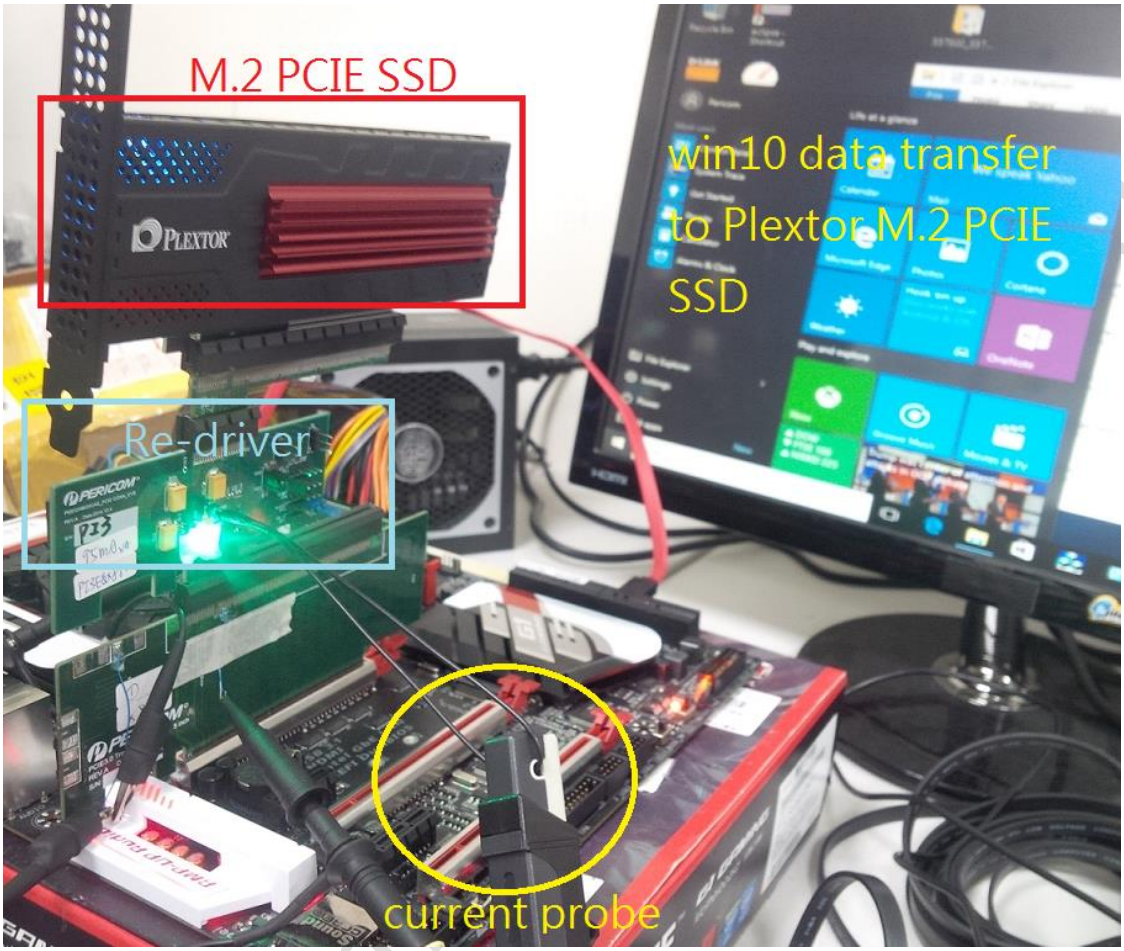
By YT,Tso FEB15,2016

Test items

1. AE EVB power consumption

PCIE L0s L1 test

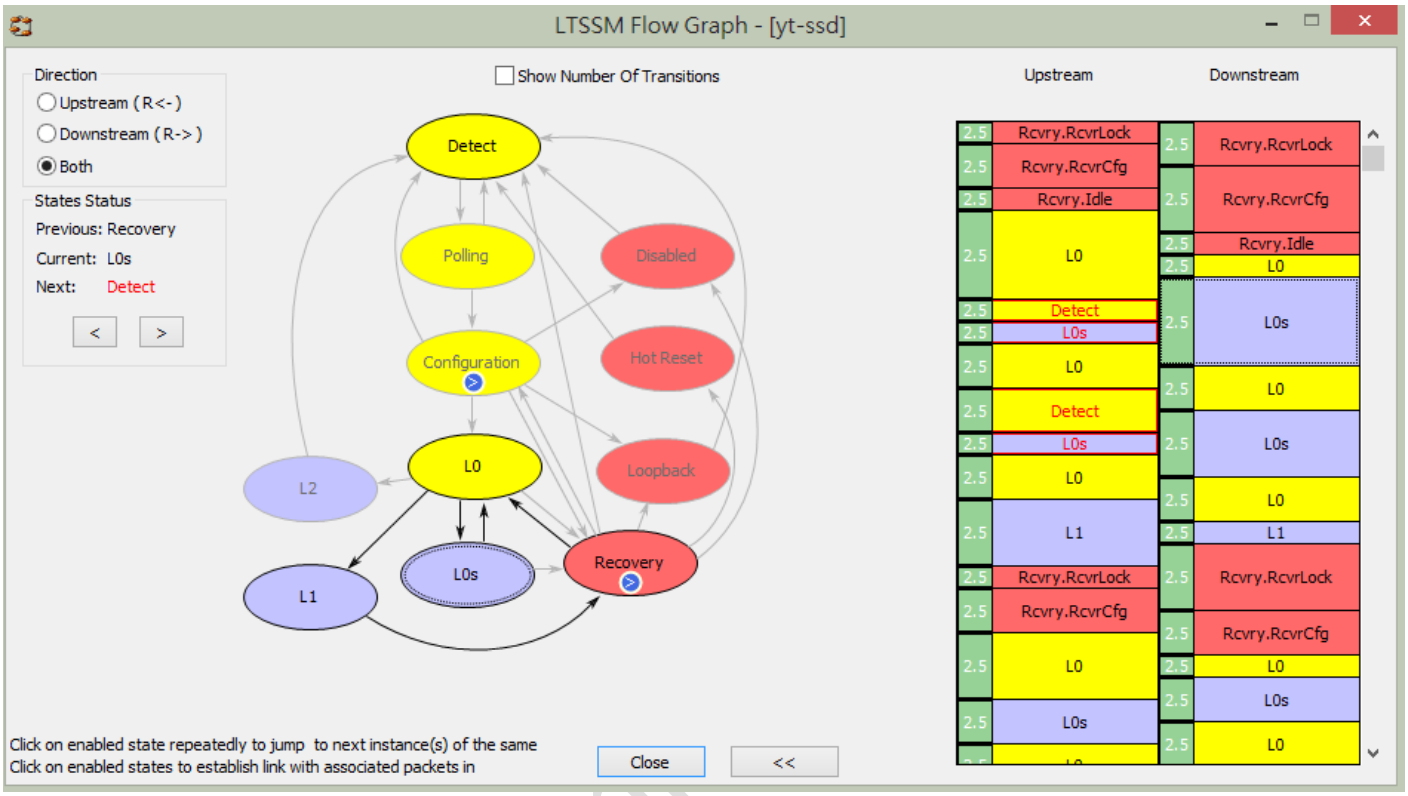
Test setup



PCIE Protocol result

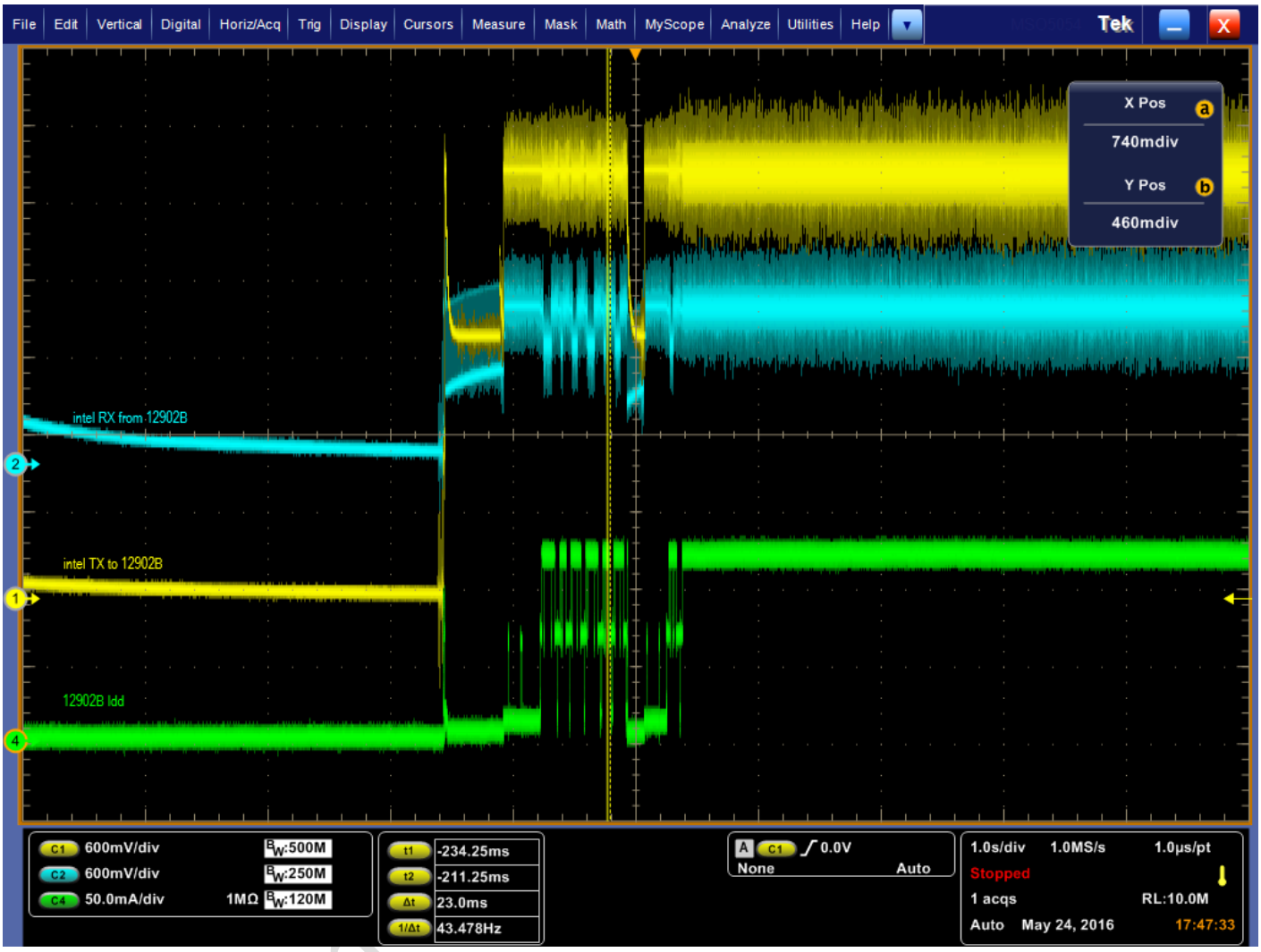
First step use PCIE protocol analyzer check the system support L0s, L1?

From the protocol result we know the system will keep back and forth from L0 to L0s when data transfer



Use 500MHz scope check re-driver Idd

Channel 4 ”Green one” is re-driver Idd, re-driver can follow L0s , L1 go down low power from active to sleep



2 Vth test

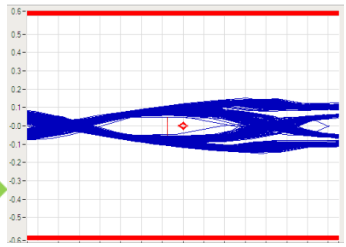
Lot W10 1A		25C					
	Input signal	VTH can pass re-driver	VTH can not pass re-driver	Unit		input/output DC bias no load	disable current
sample 6	5Ghz CLOCK	106	65	mVd		2V/2V correct	10.3uA correct

3 Extend trace test

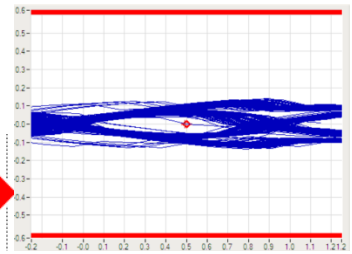
PCI-SIG provides PCI Express compliance tests that are utilized for testing PCI Express systems . The below PCI Express 3.0 TX Compliance Test use PCI Sigtest320 to check the test result (Figure 1)

Check sigtest P4 eye result

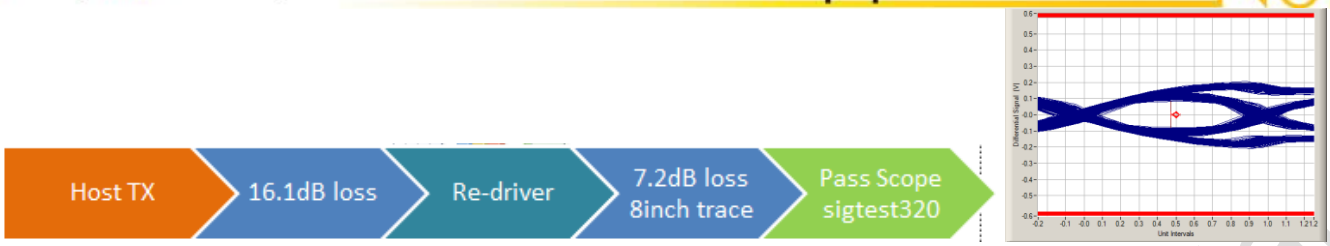
Test1 without re-driver



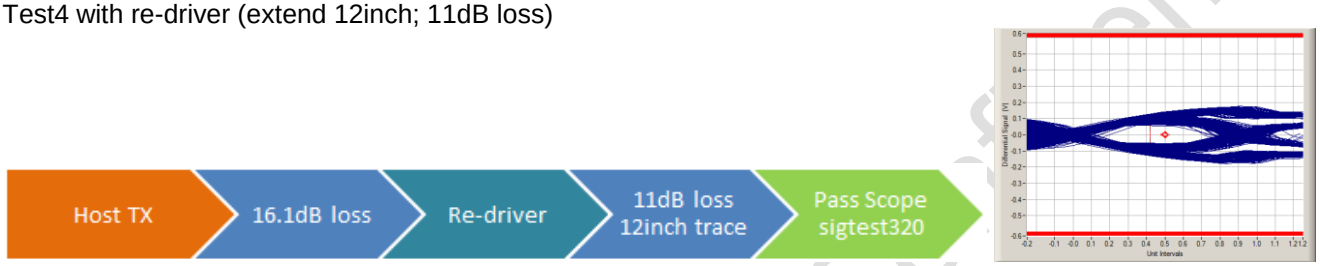
Test2 without re-driver



Test3 with re-driver (extend 8inch; 7.2dB loss)



Test4 with re-driver (extend 12inch; 11dB loss)



Test5 with re-driver (extend 15inch; 14.6dB loss)

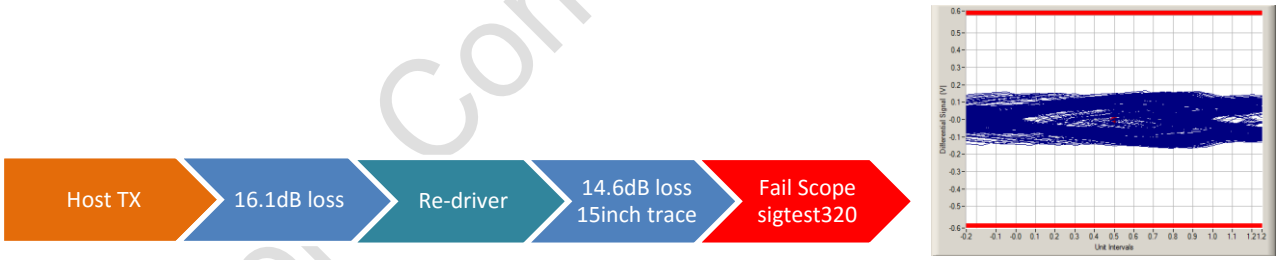
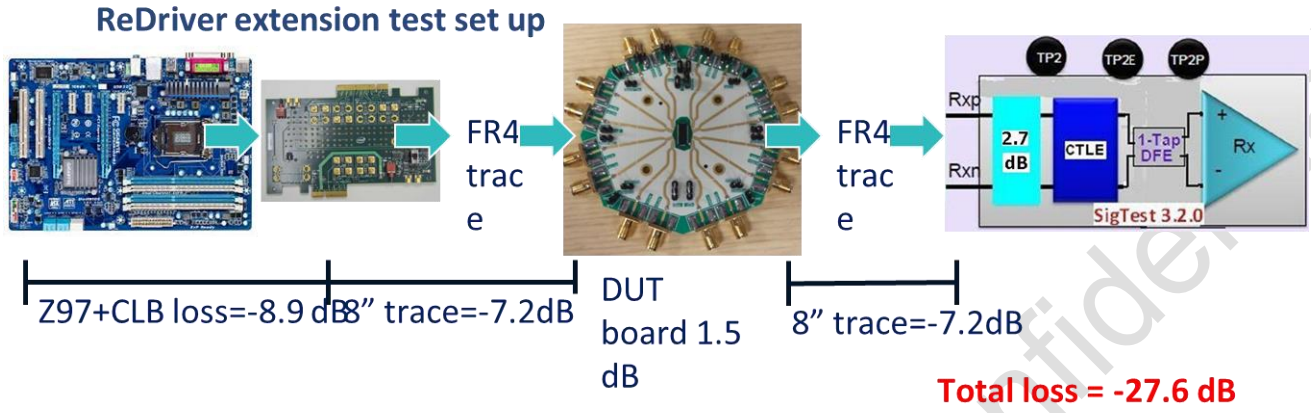
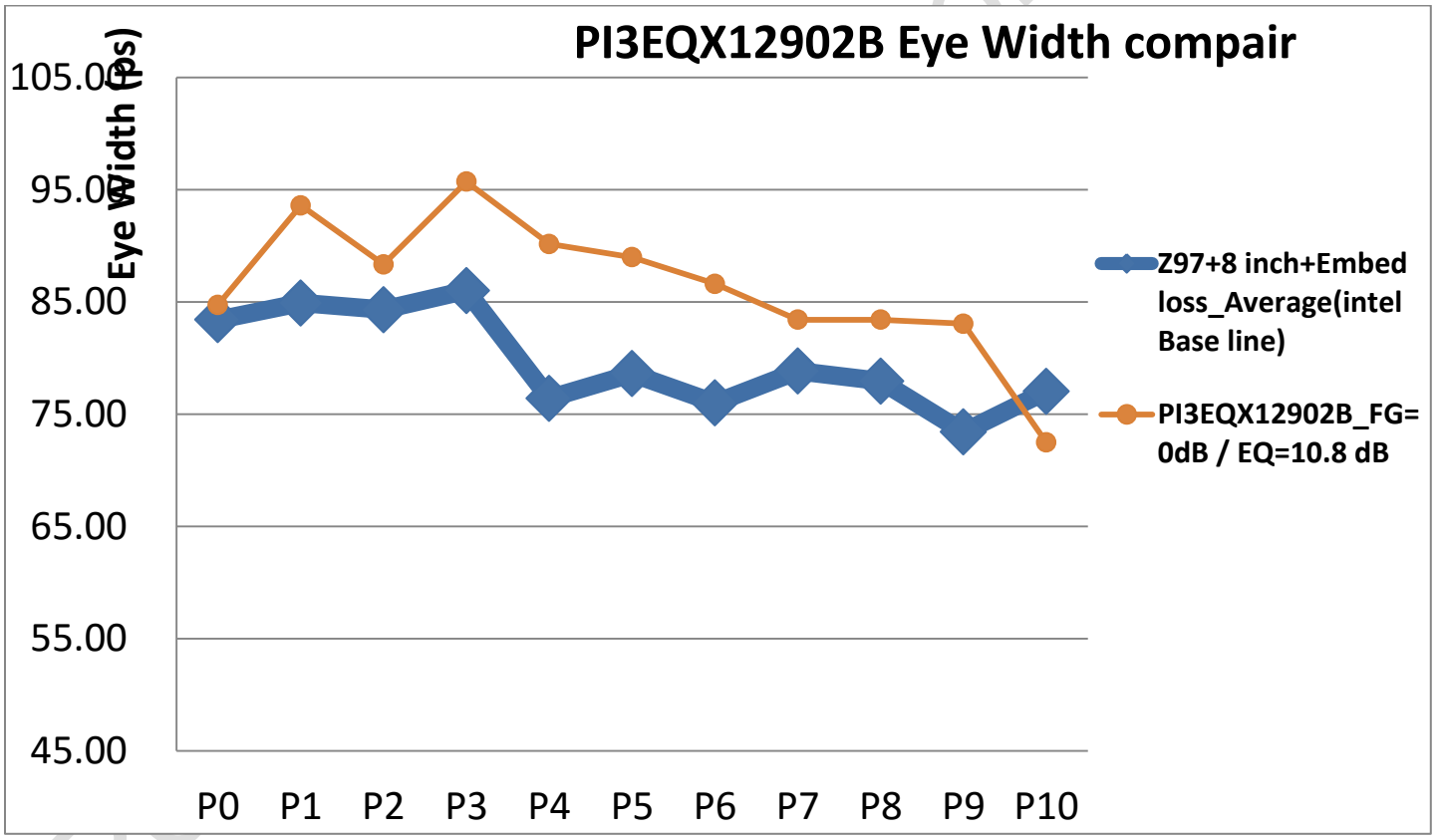
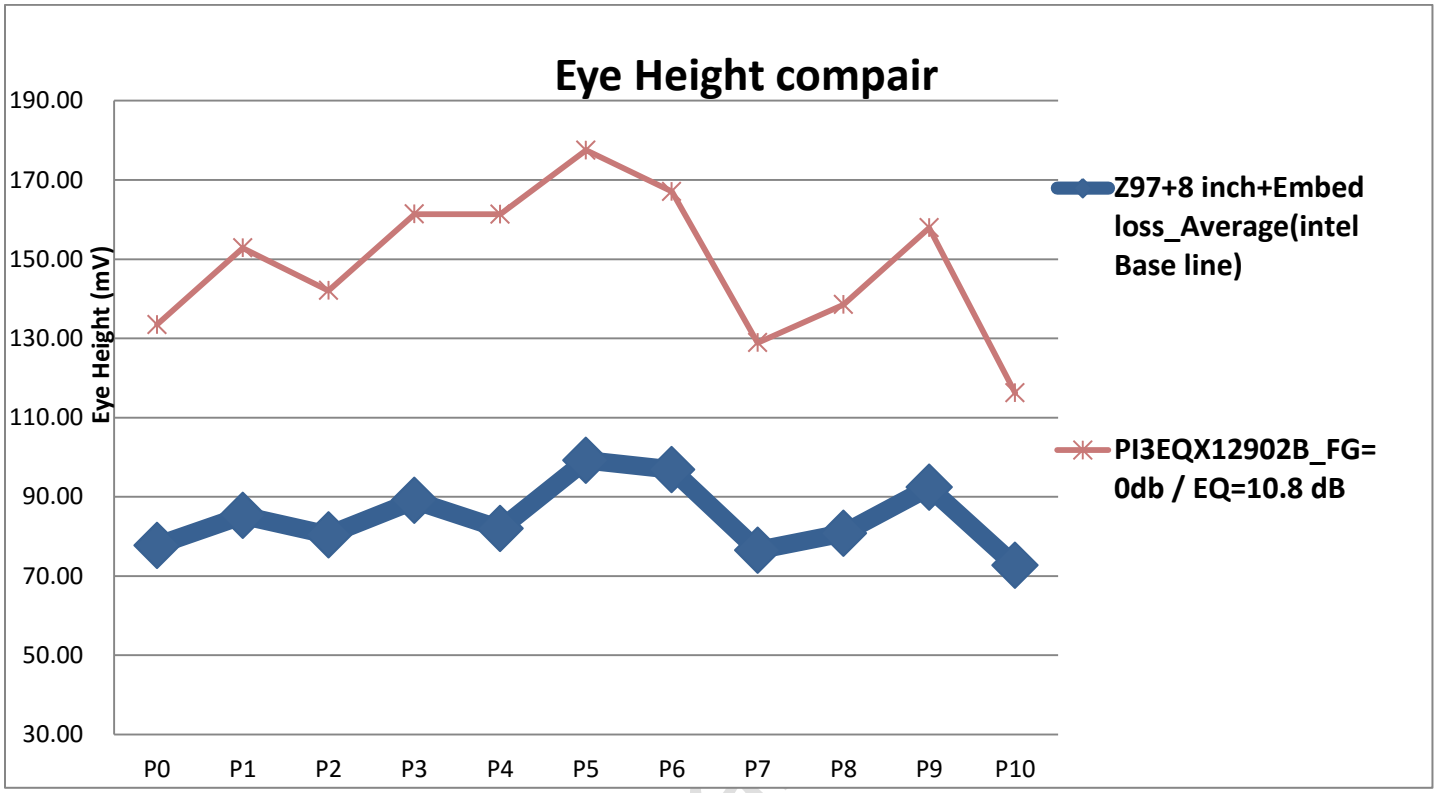


Figure 1. Extent length after add ReDriver

4 Intel base line preset test







10 Errata

NA