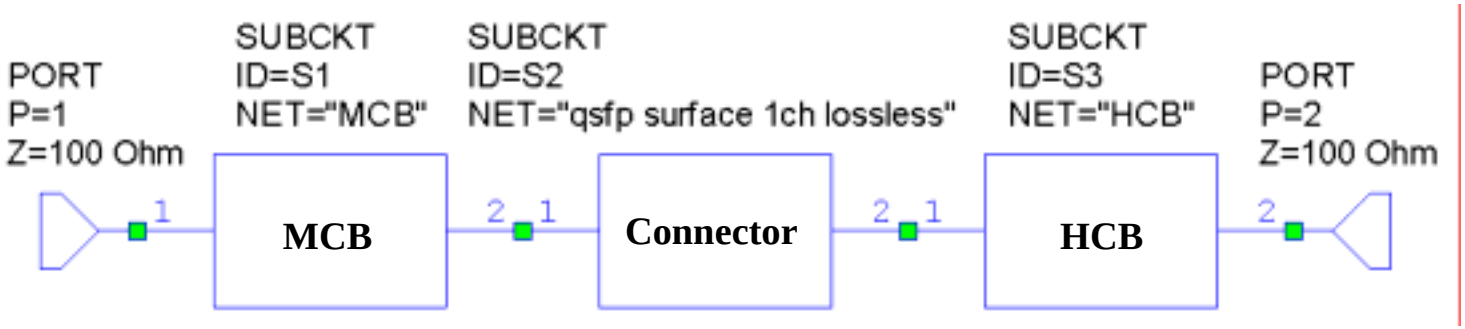
Feasibility of jitter improvements to the XLPPI interface

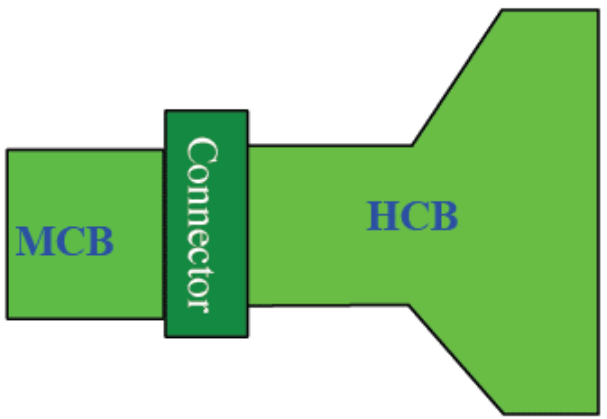
QSFP Connector Simulation Results

Jun. 19th,2010
Hiroaki Kukita
YAMAICHI ELECTORONICS Co.,Ltd

IEEE 802.3ba Task Force

Through response of mated HCB and MCB SDD21,SDD11





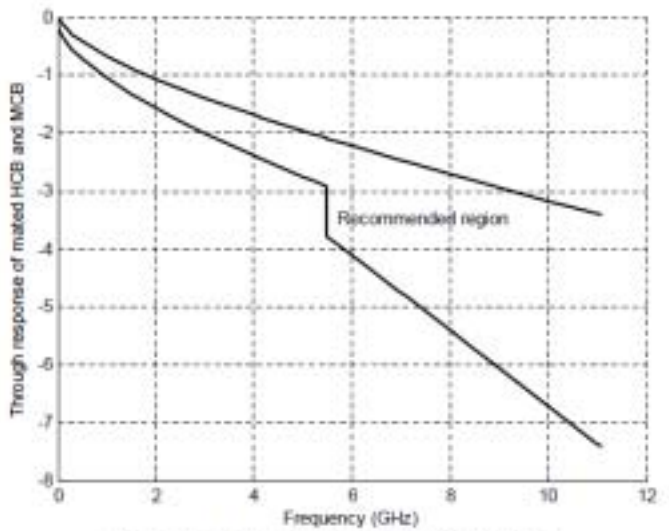
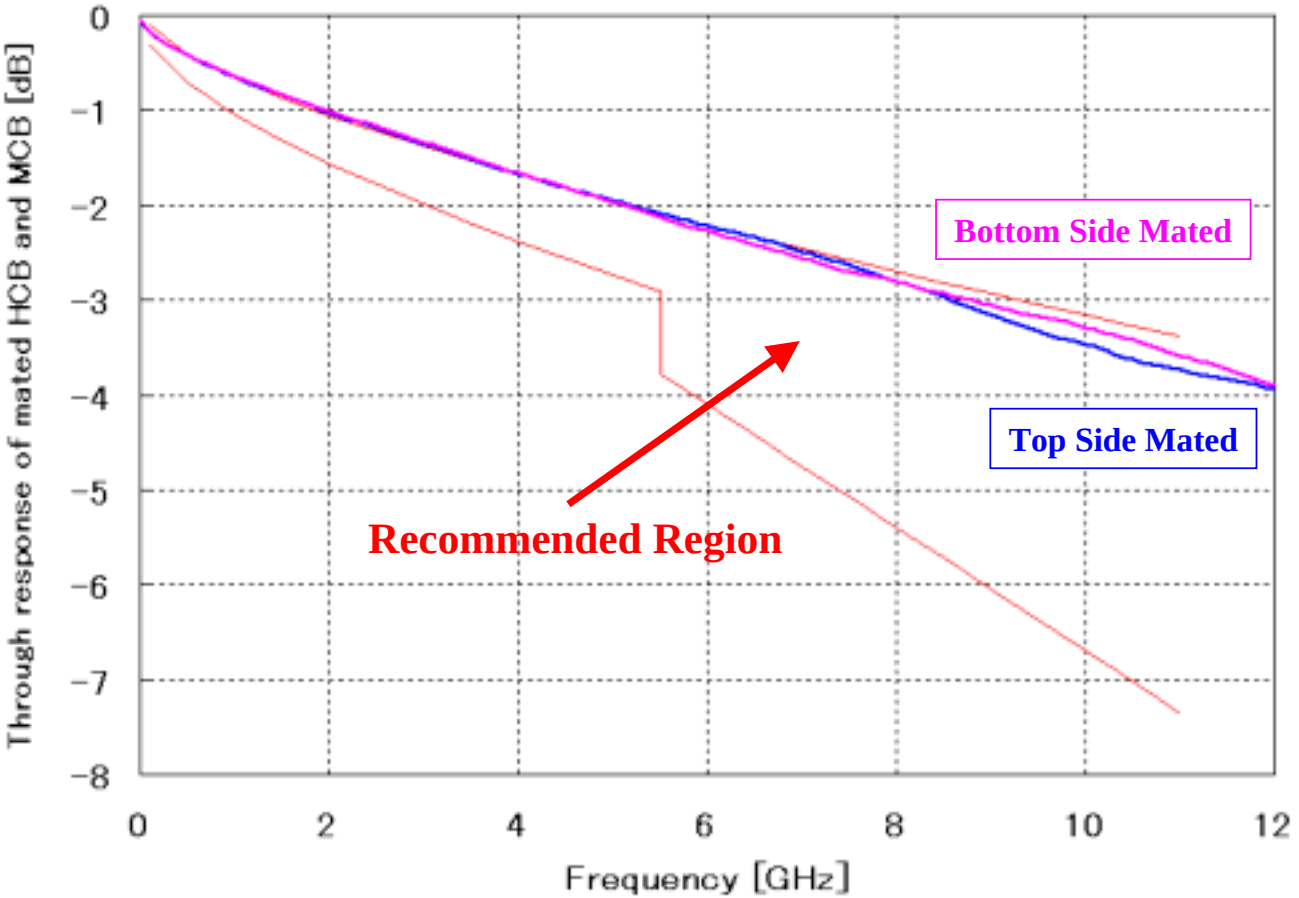
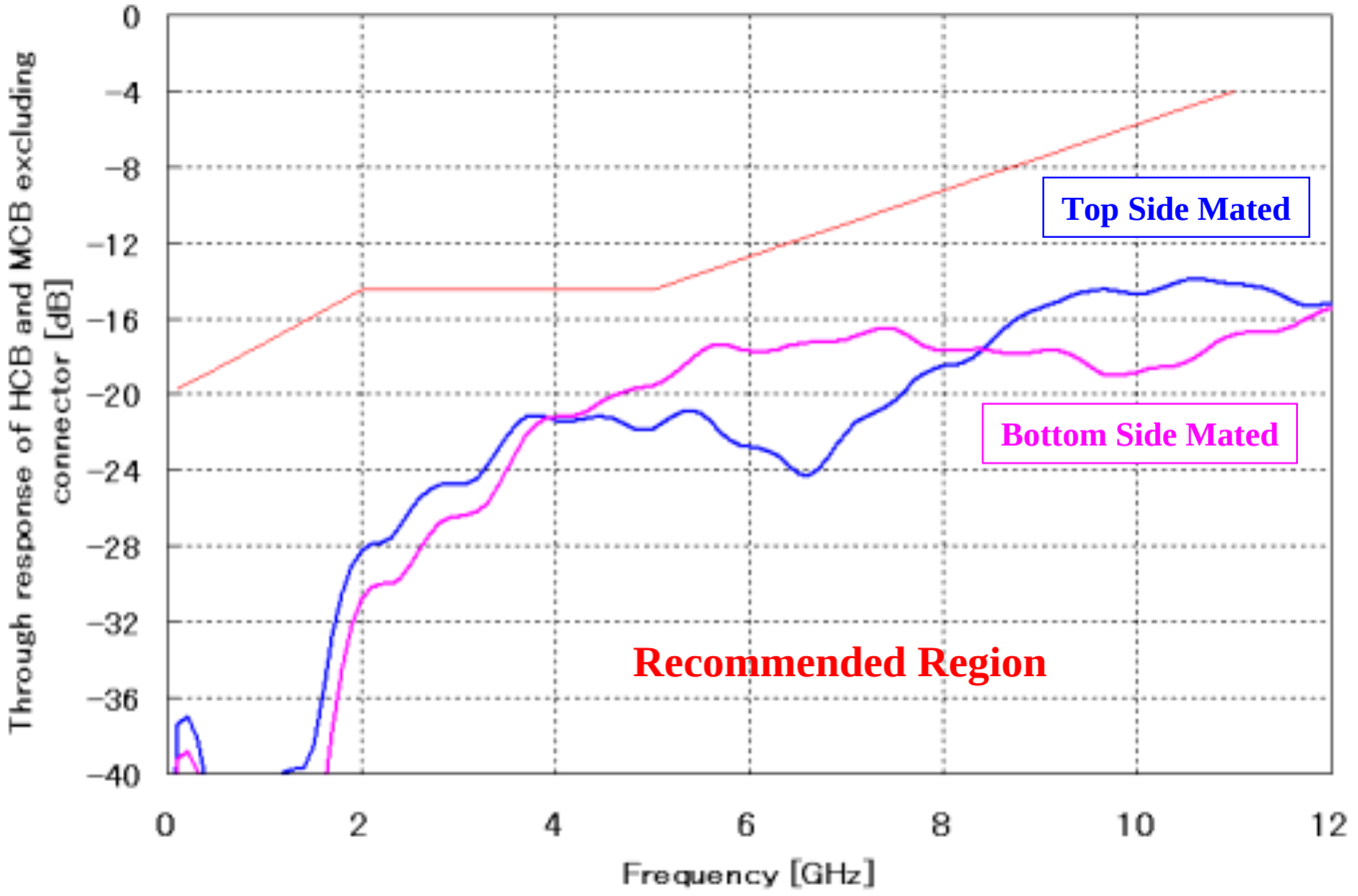


Figure 86–6—Through response of mated HCB-MCB

Through response of mated HCB and MCB SDD21 Results



Through response of mated HCB and MCB SDD11 Results

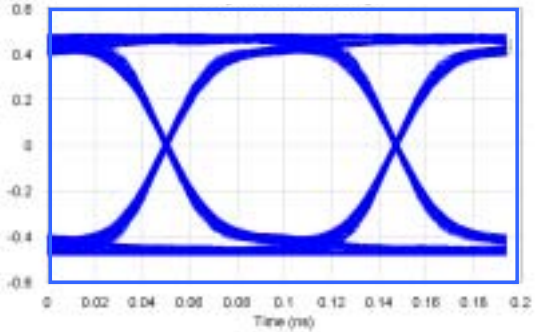


LR4 Channel Simulation(10.3125Gbps)

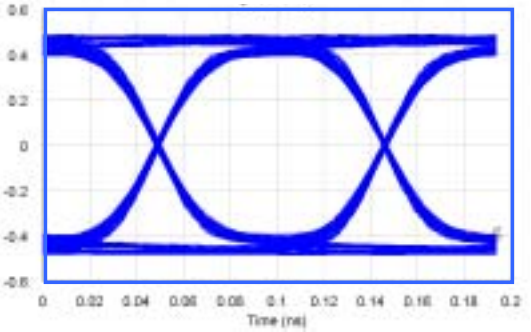
MWO Channel Simulator (No EQ or Pre-Emphasis, 30ps tr)

Differential Eye Pattern

Compliance Boards Only



QSFP SMT



	Compliance Boards Only	QSFP SMT
Eye Height (%Height)	79.0	78.4
Eye Width (%UI)	70.6	69.9
RMS Jitter (ps)	28.5	29.2

Circuit Simulator : Micro Wave Office

・PORT_PRBS is a source in the form of a pseudo-random bit sequence.

Summary

-HCB and MCB model made in circuit simulator. In addition, connector model calculated in electromagnetic field simulator and added it up in circuit simulator.

-As a result of having compared it with mask specifications, it followed that enough margins were provided.

-S21 was decided in the loss of the board, and it followed that the loss of the connector was very small amount.

-It followed that QSFP connector satisfied specifications other than crosstalk.
*Can't analyze the crosstalk for 1ch model this time.