Feasibility of jitter improvements to the XLPPI interface

QSFP Connector Simulation Results

Jun. 19th, 2010
Hiroaki Kukita
YAMAICHI ELECTORONICS Co., Ltd
Through response of mated HCB and MCB SDD21,SDD11
Through response of mated HCB and MCB SDD21 Results
Through response of mated HCB and MCB SDD11 Results

[Graph showing through response of HCB and MCB at different frequencies with marked regions for top side and bottom side mated connection.]
LR4 Channel Simulation (10.3125Gbps)
MWO Channel Simulator (No EQ or Pre-Emphasis, 30ps tr)

Compliance Boards Only

<table>
<thead>
<tr>
<th></th>
<th>Compliance Boards Only</th>
<th>QSFP SMT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Height (%Height)</td>
<td>79.0</td>
<td>78.4</td>
</tr>
<tr>
<td>Eye Width (%UI)</td>
<td>70.6</td>
<td>69.9</td>
</tr>
<tr>
<td>RMS Jitter (ps)</td>
<td>28.5</td>
<td>29.2</td>
</tr>
</tbody>
</table>

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.*