5000 OOBI Burst Analysis (T10/06-375r0)

August 17, 2006

AIM ADS
Speed Negotiation Window 3 (aka Configuration Window)

- Speed Negotiation Lock Time (SNLT) 102us
- Rate Change Delay Time (RCDT) 500us
- Speed Negotiation Transmit Time (SNTT) 109us
Speed Negotiation Transmit Time with 5000 OOBI Bursts.

- SSC 30kHz-33kHz
- Speed Negotiation Transmit Time (SNTT) 109us
- SSC 33.3us-30.3us

<table>
<thead>
<tr>
<th></th>
<th>Transmit Time (us)</th>
<th>Nominal</th>
<th>-2400ppm downspread</th>
<th>+2400ppm upspread</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed Negotiation Transmit Time (SNTT)</td>
<td>109us</td>
<td>5000 OOBI * 666.6666ps = 3.333us</td>
<td>5000 OOBI * 668.266ps = 3.341us</td>
<td>5000 OOBI * 665.06ps = 3.325us</td>
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<tr>
<td>Uncertainty</td>
<td>0.52us</td>
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Spec Values for Burst Transmission and Detection

- Burst shall be 5000 OOBI
  - Considering +/-2400ppm variation due to SSC
  - Transmit Min 3.325us, Nom 3.333us, Max 3.341us

- Detection
  - May detect 3.200us <= T < 3.466us
  - Shall detect 3.225us <= T <= 3.441us
  - Shall not detect T < 3.200us or T >= 3.466us
Summary

- This analysis considers the case where one system is always 2400ppm fast and the other is always 2400ppm slow.
- The accumulated error built up over 109us would be 0.52us.
- The burst is 3.33us.
- SSC will average out over the 109us because there are just over 3 periods in this timeframe.
- The timing for threshold detection is required to be better than 10ns for OOB detection.

- Conclusion: No timing issue for 5000 OOBI bursts.