Product Change Notification

105208 - 00

Should you have any issues with the timeline or content of this change, please contact the Intel Representative(s) for your geographic location listed below. No response from customers will be deemed as acceptance of the change and the change will be implemented pursuant to the key milestones set forth in this attached PCN.

Americas Contact: asmo.pcn@intel.com

Asia Pacific Contact: apacgccb@intel.com

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Product Change Notification

Change Notification #: 105208 - 00

Change Title: Intel® TXN17201850 and TXN174210850 Optical Transceiver, PCN 105208-00, FFF, Immediate Firmware Update

Date of Publication: June 16, 2005

Type of Change Notification:

FFF - (Form-Fit-Function)

Key Characteristics of the Change:

Product Design

Forecasted Key Milestones:

Date Customer Must be Ready to Receive Post-Conversion Material:	Jun 16, 2005

Description of Change to the Customer:

Recently 3 TXN174210850xxx (Cicada M) units were returned to Intel for a failure analysis. It was found that these units exhibited an intermittent issue caused by firmware during power up or hot swap. The failure mode observed was that the SerDes will not lock, and therefore not pass traffic.

It was found that units that are in operation will not exhibit this error, only units brought up from a cold start exhibit these characteristics. A key reason why this issue was not discovered earlier and we have seen so few returns is that a simple toggle of the power will make the unit operational.

This issue has the potential to affect Cicada M (TXN174210850xxx) and SandFly (TXN1720x0850xxx) units that shipped from July 2004 to the present. This error is not present in the next generation Cicada 2M (TXN174310850xxx) or the FireFly M (TXN1790x0850xxx).

Description of change to be implemented:

- During boot up, there is an “If Then” logic statement that looks at a certain register bit (RSTSRC.5) to determine whether a Xenpak RESET has occurred.
- This statement currently executes after any microprocessor RESET as long as the 3.3V, APS and 2.5V monitors in RAM are above a minimum threshold.
- The firmware shall be changed to execute the “If Then” logic only if a Power On RESET has not occurred since RSTSRC.5 is indeterminate after a Power On RESET. RSTSRC.2 is always determinate and indicates a Power On RESET.

- Furthermore, the firmware shall be changed to execute the “If Then” statement as long as the 3.3V, APS and 2.5V supplies are between a minimum and maximum threshold

Customer Impact of Change and Recommended Action:

In order to quantify the number of units that may be affected by this issue, manufacturing records were examined to determine the percentage of units that failed upon first insertion but passed on subsequent insertion attempts. There are several manufacturing issues that could possibly be related to a single insertion's effect on first pass yield, so this attempt to quantify the percentage of units will likely predict a larger number of units than what are actually affected. Based on this calculation method of first insertion failure, 6.15% of manufacturing units have the possibility of being affected by this firmware issue.

Any unit that is affected by this firmware issue has a 50% chance of demonstrating the failure mode upon start-up. Assuming that half of the units that have the firmware issue demonstrated it at first insertion, we could assume that the total number of units that could be affected by this issue would be doubled (2 x 6.15% = 12.3%). While this method of quantifying the number of units affected likely over represents the number of units that are actually affected by this issue, the maximum percentage of units that could be affected is ~12.3%.

The firmware upgrade explained in this PCN will correct the intermittent issue on all units that will be manufactured going forward. No other customer impact is expected.

For units already deployed:

- There are several non-invasive ways to make the module operational if this issue is experienced:
  - Disengage the XENPAK from the 70 pin connector and re-insert it (i.e. hot swap) within 3 seconds
  - Toggle the 3.3V supply once the unit is in the failed state
  - Toggle register bit 1.8006.0 once the TXN has booted up – easiest method, recommended if a SW upgrade is planned

Please contact your local field sales representative if you need help implementing these recommendations.

Products Affected / Intel Ordering Codes:

System Products Table

Affected Product Code	Affected MM#
TXN172010850G37	859741
TXN174210850F16	859743
TXN174210850F1A	859744
TXN174210850F1C	859746

Reference Documents / Attachments:

Document:	Location #:

PCN Revision History:

Date of Revision:	Revision Number:	Reason:
June 16, 2005	00	Originally Published PCN