Product Change Notification

106181 - 03

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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.

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Product Change Notification

Change Notification #:	**106181 - 03**
Change Title:	**Intel® TXN13600 Tunable Laser Transponder, PCN 106181-03, Product Design, Manufacturing and Assembly Site Transfer, RoHS Compliance, Mechanical Modifications and Firmware Upgrade, Reason for Revision: Added 4 new product codes, added boot modification on transmit side, added L-band specific information, adding LC connector specific information**
Date of Publication:	**July 10, 2006**

Key Characteristics of the Change:

Product Design
Order Code
Manufacturing Site

Forecasted Key Milestones:

Date of Samples Availability:	Aug 17, 2006
Date of Qualification Data Availability:	Jul 10, 2006
Date Customer Must be Ready to Receive Post-Conversion Material:	Oct 10, 2006
Date of First Availability of Post-Conversion Material:	Sep 14, 2006

The date of "First Availability of Post-Conversion Material" is the projected date that a customer may expect to receive the Post-Conversion Materials. This date is determined by the projected depletion of inventory at the time of the PCN publication. The depletion of inventory may be impacted by fluctuating supply and demand, therefore, although customers should be prepared to receive the Post-Converted Materials on this date, Intel will continue to ship and customers may continue to receive the pre-converted materials until the inventory has been depleted.

Description of Change to the Customer:

Reason for Revision: **Added 4 new product codes, added boot modification on transmit side, added L-band specific information, adding LC connector specific information (additions are highlighted in red)**

The TXN13600 full band tunable laser based transponder will be built on a manufacturing line brought up at a contract manufacturer (CM) in Malaysia. Assembly and test processes in the Contract Manufacturer (CM) are equivalent to current Newark, California manufacturing facility. The transponder built at the CM will have the following changes:

Hardware
1. Second manufacturing site for tunable laser at a CM in Thailand
2. Second source for PBA in Malaysia.
3. Second source of transformer used for SBSS feature.
4. Second source of Mach-Zender modulator
5. Modifications for RoHS compliance with lead-free exemption
   a. Replacement with cadmium free components per table below.
   b. Use of non-leaded components as leaded components become EOL

These parts are substitute parts from the same vendors. They have been fully qualified by the vendors and functionally qualified by Intel. A detailed list of changes is given in the following table.

Description	Changes
Modulator Driver	Non-RoHS capacitor is replaced with Cd free capacitor
Capacitor	Non-RoHS capacitor on board is replaced with Cd free capacitor
Tunable laser	Non-RoHS thermistor is replaced with RoHS compliant thermistor

Table: Modifications to non-leaded parts due to scarcity/EOL

Description	Changes
IC (control signal path): TSSOP16	Plating changed to matte Sn(Pb Free)
Diode	Plating changed to matte Sn (Pb Free)
Micro controller: TQFP100	Plating changed to matte Sn (Pb- Free)
Memory: TSSOP8	Plating changed to matte Sn (Pb Free)
Memory TSSOP8	Plating changed to matte Sn (Pb Free)

Table: Modifications to non-leaded parts due to scarcity/EOL

Mechanical:
1. Second source on housing and EMI shields.
2. The housing have a modified chamfert (corners have a smaller round edge)
3. Removed Washers from housing assembly
4. A splice protector added between modulator and laser for additional safety
5. Label change with new Intel logo on TXN module, package and test report. Location of logo will remain unchanged.
6. Redesign of fiber spool tray to hold splice protector
7. The fiber boot on the transmit side has been modified for more robust fiber handling (increased boot length by 18mm).
8. For modules with LC connectors only, the boot on the connector has been modified to a shorter length (reduced connector length by 18 mm).

Firmware Upgrade (to enable):
1. If a transponder is switched from hard mode to soft mode, any threshold voltage applied to RxDTV pin is converted into appropriate percentage setting in the corresponding I2C registers.
2. Individual power supply alarm register reports alarm in absence of the corresponding power supply only.
3. Firmware handles incoming command overflow without interface lockup.
4. Laser control firmware revised to prevent accidental laser emission prior to laser temperature becoming stable.

5. Firmware upgrade to avoid RTOS queue overflow which may lead to I2C hang-up on rare occasions
6. For L-band modules only, the L-band numbering scheme has been made compliant with the I2C MSA version 4.1 (channel numbering starts from channel 81).

The original part number has a 3-rate jitter filter.
The new part numbers will offer two options
-3-rate jitter filters at 9.9G/10.3/10.7G.
-Multi-rate operations with no jitter filters
The software interface/Hardware interface for rate selection using jitter filter is the same for both options.

Customer Impact of Change and Recommended Action:

Intel has already started builds at the CM with all the changes discussed in this PCN and has initiated qualification testing. The qualification testing will look to confirm that there is no performance differences between the modules built at either manufacturing facility.

Customers might receive product built at either manufacturing facility (Intel Newark or CM Malaysia) through the transition timeframe. Customers may want to inform their receiving department that either part number is acceptable. Intel is expecting to transition all the tunable transponder manufacturing to the CM by the end of 2006.

Products Affected / Intel Ordering Codes:

System Products Table

Affected Product Code	Pre-Change MM#	Post-Change MM#	Post-Change MM#	Comment on Post Change MM#
TXN136037E00DP1	869022	TXN136077E00DS1	883216	Multi-rate with no jitter filter
TXN136037E00DP1	869022	TXN136037E00DS1	877778	3-rate jitter filter
TXN136037E00DP1	869022	TXN1360D7E00DS1	884274	9.9-11.27G, no jitter filter
TXN1360D6200DL3	875893	TXN1360D6200DS3	884277	
TXN1360762AADL3	868644	TXN1360762AADS3	884276	
TXN136076F00DP3	869024	TXN136076F00DS3	883686	

Reference Documents / Attachments:

Document:	Location #:
Quality and Reliability Report (1000hr testing)	Please contact your local Intel Field Sales Representative

PCN Revision History:

Date of Revision:	Revision Number:	Reason:

April 13, 2006	00	Originally Published PCN
April 21, 2006	01	Correct the Product Code Number
April 24, 2006	02	to Correct the Product Code Number
July 10, 2006	03	Added 4 new product codes, added boot modification on transmit side, added L-band specific information, adding LC connector specific information