Product Change Notification

106704 - 02

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Product Change Notification

Change Notification #:	**106704 - 02**
Change Title:	**Intel® Embedded Processors and Chipsets, PCN 106704-02, Product Material, Conversion to Pb-Free Products, Reason for Revision: Additional Corrections Made to Affected Products**
Date of Publication:	**October 11, 2006**

Key Characteristics of the Change:

Product Material
Order Code
Transport Media

Forecasted Key Milestones:

Date of Qualification Data Availability:	Sep 26, 2006
Date Customer Must be Ready to Receive Post-Conversion Material:	Mar 1, 2008
Date Orders will be Accepted for Post-Conversion Material:	Sep 26, 2006
Last Order date for non-Pb-Free Material	Aug 31, 2007
Last Ship date for non-Pb Free Material	Feb 28, 2008

Description of Change to the Customer:

Reason for Revision: Additional Corrections Made to Affected Products

The products listed in table below will undergo the following changes in order to be compliant with Intel's Pb-free/RoHS Initiative:

1. SLI (Second Level Interconnect) solder ball material will change from Sn/Pb to Sn/Ag/Cu alloy.
2. DSC (Die Side Capacitor) attachment process on FCBGA packages will change to Pb-free paste process
3. Products will be Pb-free board process compatible and peak reflow temperature will increase to 260°C.
4. Product Code and MM# will change as shown in the Products Affected Table
5. A new marking "e1" with a circle around it will be added per JESD97 Marking Standards to indicate that the product SLI is now Pb-free*

* Note, Products in FCBGA packaging are not totally Pb-free, but are RoHS compliant. The first level interconnect uses high lead material which is exempt by RoHS.

Customer Impact of Change and Recommended Action:

1. Pb-free SLI products require new Pb-free board assembly process. Each customer should develop their own board profile envelope appropriate to their equipment, material and products.
2. The new products are not “drop in” or backward compatible with the conventional leaded board process. Intel recommends running solder joint evaluations in case Pb-free SLI parts are to be used in a leaded board assembly process.
3. The appearance of Sn/Ag/Cu solder balls may be grainy and dull when compared to shiny Sn/Pb balls. This may require an adjustment to vision system hardware and software.

Due to this change we will start to provide a distinctive symbol and label which identify those components or devices that are totally Pb-free and/or are capable of providing or have Pb-free 2nd level interconnects.

Lead version of these parts will no longer ship after March 1, 2008.

- Note that Lead (Pb) has not been intentionally added, but may still exist as an impurity below 1000 ppm.

Current Label:

STD INTERMEDIATE BOX LABEL

(P) CUST PROD:

(1B) BOX: XX000030

(V) SUPPLIER: 04195 INTEL

MAX REFLOW 220 °C
TEMP
LEVEL 3 HOURS 168
BAG SEAL DATE24MAR05

(1P) IPN: INTEL PRODUCT NAME

(S) SPEC:

(30P) MM#: 888888

(1T) LOT: FPO NUMBER

(Q) QTY: 1600

(9D) DATE: 0513

(1T) LOT:

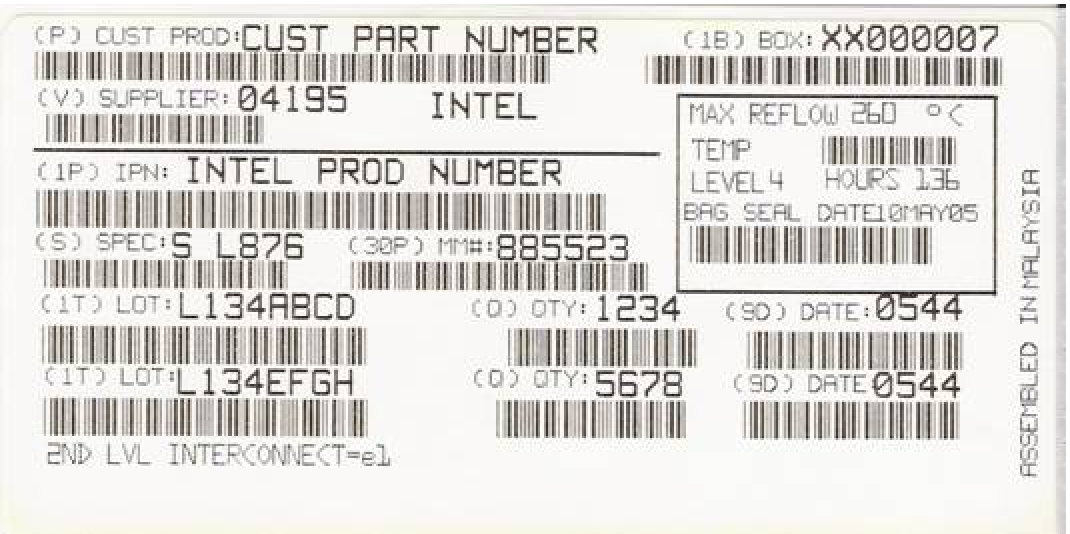
(Q) QTY:

(9D) DATE:

ASSEMBLED IN MALAYSIA

New Label

STD INTERMEDIATE BAG LABEL



(P) CUST PROD: CUST PART NUMBER

(1B) BOX: XX000007

(V) SUPPLIER: 04195 INTEL

MAX REFLOW 260 °C
TEMP
LEVEL 4 HOURS 136
BAG SEAL DATE10MAY05

(1P) IPN: INTEL PROD NUMBER

(S) SPEC: S L876

(30P) MM#: 885523

(1T) LOT: L134ABCD

(Q) QTY: 1234

(9D) DATE: 0544

(1T) LOT: L134EFGH

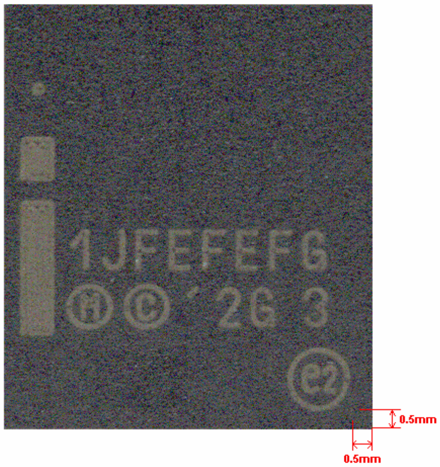
(Q) QTY: 5678

(9D) DATE 0544

2ND LVL INTERCONNECT=e1

ASSEMBLED IN MALAYSIA

“e$_x$” mark on packages. Pb-free mark may be on separate line (as shown below) or on last line of existing mark (copyright line)



The following categories are meant to describe the Pb-free 2nd level interconnect (see figure 1) terminal
finish/material of components and/or the solder paste/solder used in board assembly.
e1 - SnAgCu (shall not be included in category e2)
e2 - Sn alloys with no Bi or Zn excluding SnAgCu
e3 - Sn
e4 - Precious metal (e.g., Ag, Au, NiPd, NiPdAu) (no Sn)
e5 - SnZn, SnZnx (no Bi)
e6 - contains Bi
e7 - low temperature solder (≤ 150 °C) containing Indium (no Bi)

The marketing package designator will also change to reflect Pb-free packaging. In order to facilitate this change a new MM# has been created for the affected products. Ceramic products are already Pb-free so the package designator will not change. However, the part mark will change to reflect Pb-free product. Please see table below.

Products Affected / Intel Ordering Codes:

Component Product Table

Component Product Table

Pre-Conversion MM#	Pre-Conversion Product Code		Post-Conversion MM#	Post-Conversion Product Code
850149	RG82845GV SL6PU		869483	JG82845GV SL8DA
858255	FWE6300ESB SL76G		865250	NHE6300ESB S L7XJ
871771	RJ80536VC001512 SL8LQ		871728	LE80536VC001512 SL8LW
864683	RJ80536GE0412M SL7SQ		867109	LE80536GE0412M SL869
860478	RJ80536GC0332M SL7EQ		875186	LE80536GC0332M SL7Q6
860553	RJ80536LC0172M SL7F3		868295	LE80536LC0172M SL7P9
872126	RJ80536NC0211M SL8MF		872115	LE80536NC0211M SL8MT
867425	NQ82915GM SL87G		868104	QG82915GM SL89G
870319	NQ82915GM SL8G2		870323	QG82915GM SL8G6
869775	NQ82915GM SL8DY		869777	QG82915GM SL8E2
848140	FW82801DB SL6DM		869490	NH82801DB SL8DE
853970	RG82875 SL744		869502	JG82875 SL8DB
865352	NQE7520MC SL7XT		869778	QGE7520MC SL8EE
865353	NQE7320MC SL7XV		869779	QGE7320MC SL8EF
853565	RG82855GME SL72L		864863	JG82855GME SL7VN
853564	RG82852GME SL72K		869481	JG82852GME SL8D7
853196	RG82852GM SL6ZK		864971	JG82852GM SL7VP
864873	FW82801FBM SL7W6		868158	NH82801FBM SL89K
857529	FW82801FBM SL79P		864813	NH82801FBM SL7VM

Reference Documents / Attachments:

Document:	**Location #:**
Intel Pb-free Site	http://www.intel.com/research/silicon/leadfree.htm
JESD97	http://www.jedec.org/download/default.cfm
MDDS	http://www.intel.com/design/PACKTECH/packbook.htm

PCN Revision History:

Date of Revision:	**Revision Number:**	**Reason:**
September 26, 2006	00	Originally Published PCN
October 4, 2006	01	Revised to Correct Post-Conversion Product Codes and MM #s
October 10, 2006	02	Additional Corrections Made to Affected Products