ABCD Inventory for Hybrid Construction

SCT Week

23-Sep-2003

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Perfect Chip Count

As of 30-Aug-03, the count of perfect ABCD chips is as follows:

Total number of Perfect Chips found at Wafer Test:	52,778
Perfect Chips in last fab lot which appears to fail X-ray QA:	308
Estimate of Chips lost due to two specific saw/pick problems:	382
Remaining Perfect Chips:	52,088
Estimate Loss Rate for Remaining Saw/Pick:	0.7%
Estimate Loss for Remaining Saw/Pick:	365
Remaining Perfect Chips Delivered for Assembly:	51,723

Chip Distribution So Far

As of 30-Aug-03, the count of perfect ABCD chips is as follows:

	From SCIPP	From RAL	From CERN	Totals
KEK - as chips	11,717	111		11,828
KEK - as wafers	1,389			1,389
Birmingham		2,757		2,757
LBNL/SCIPP	2,527			2,527
Freiburg	415			415
Hybrid SA – as wafers	2,682	1,225	3,540	7,447
Total Distributed:	18,730	18,730	18,730	18,730

1-bad-channel Count

There are 1-bad-channel chips still remaining which fall into the following two categories:

- **1 channel with analogue parameters out of spec (labeled AA1) (~15K)**
- **1 channel completely dead (labeled AD1) (~23K)**
  These include stuck-on channels as well as stuck-off, but we do not yet know the split between the two types.

IC Allocation Plan

Mike's plan for chip allocation presented to the Steering Group is as follows:

- **For End-Cap:**
  - **~25k perfect ICs**
  - **~7k AA1 type ICs**
  - **All production hybrids will be built with ~15% AA1s**
  - **To avoid end of batch losses the last hybrid of a lot should be completed with AA1**
  - **For rework AA1 ASICs to be used**
  - **All remaining AA1s and AD1 (only stuck-off) will be picked and stored in gel-packs**

IC Allocation Plan (cont.)

- **For Barrel:**
  - **~26.7k perfect ICs**
  - **~8k AA1 type ICs**
  - **For remaining series production, each cluster will first use up their quota (the quota = 12x number of modules to be shipped) of perfect ASICs to build modules.**
  - **To avoid end of batch losses the last hybrid of a lot should be completed with AA1.**
  - **For rework AA1 ASICs to be used**
  - **When the quota of perfect ASICs are exhausted, hybrids will be built with 12 AA1 ASICs/hybrid**
  - **All remaining AA1s and AD1 (only stuck-off) will be picked and stored in gel-packs**

Picking 1-bad-channel ICs

Hybrid SA is now using ~15% AA1 types as they pick ICs from wafers and place onto EC hybrids. Remaining wafers are temporarily stored on "blue tape" after initial picking.

SCIPP is currently picking AA1 chips from wafers. AD1s will be picked into separate gel-packs once the stuck-off vs. stuck-on chips can be separated.

RAL will pick AA1s and AD1s into common gel-packs once stuck-off vs. stuck-on chips can be separated.

Once initial build of EC hybrids is complete, Hybrid SA will pick remaining AA1s and AD1 into gel-packs.