

SUPPLY-CHAIN PERFORMANCE SUBCOMMITTEE MINUTES

Date: December 11, 2008
Location: Teleconference/Amalfi Semiconductor
Time: 1:00pm – 2:30pm (PST)
Participants:

Ron Jones – N-Able Group International
Roger DeAmicis – ChipX
Larry Sladewski – NVIDIA
Katty Van Mele – Sarnoff Europe
Bill Chatterjee – Zilker Labs
George Wu – PMC-Sierra, Inc.
Mark Ashton – PMC-Sierra, Inc.
Sandeep Kumar – Silicon Labs
Joe Holt – Integra Technologies LLC
Sridhar Kannan – Stream Processors, Inc
Dan Wark - Amalfi Semiconductor
Doug Heffernan – JSI Logistics
Eelco Bergman – Vietnam-Chipscale Advanced Packaging Services
Ed Pausa – PricewaterhouseCoopers LLP
Steve Kidd – HIFN
Chelsea Boone – GSA
Kayal Rajendran – GSA

Meeting Purpose:

- To discuss the Q4 2008 Wafer & Back-End Pricing Survey Results and modifications that will be made to the 2009 Survey & Report

Actions Completed/Items Discussed:

- Survey Participation Trend Report
- Changes to 2009 Survey/Report
- Participant Comments
- Formulas & Filters
- Q4 2008 WP & BE Survey Results
- Logistics Survey
- Future Timelines/Dates for Next Survey

*See accompanying PowerPoint presentation

End Result/Conclusions:

- **Survey Participation Trend Report:** Need more participation from Asia. Look at distribution by participant headquarter.
- **Changes to 2009 Survey/Report:**
- Changes to 2009 Back-End Survey/Report
Starting in Jan 2009, GSA decided to no longer conduct the Back-End Pricing Survey (Assembly, Test & Wafer Bump); however, the Subcommittee voiced during the meeting to keep the Assembly portion of the Back-End Survey, as they find it beneficial. For the next few quarters, the Assembly survey will be released as is while the survey is being re-created. The following changes will need to take place: get more participants, ask a different set of questions,

decide if we should accept small volumes, need participation from big players, change filters, do Assembly survey in different quarter than the Wafer survey, or put Assembly within Wafer section. Mark Ashton, George Wu and Roger agreed to help Eelco and Dan re-do the assembly survey.

Changes to 2009 Wafer/Mask Survey/Report

-Have "Development Stage" field below "Vendor" field in survey and below the "wafer size" field in the report. They must now select the development stage field in the report.

-Below the "Price Paid per Wafer" field in survey have the required question: "Are other services included in this price?" If they select yes, an "Other Services" field will pop up below.

-In the "Other Services" section, add the options PMC-Sierra mentioned: DNW; ESD implant; SRAM implant; HVT, LVt implant; RDL; OTP; MTP

-In the "Wafer Specifications" section, delete the questions: Performance to 1st Committed Schedule, Average yield of wafers received (percent), Does process include embedded Flash.

-Below the question "Engineering Lot Charge for Initial Prototype Lot" there will be the question "Did you buy a new mask set this quarter?" If they select Yes, then the fields "total production mask set cost" and "# of Masks Included in Set" will pop up.

- In the survey and report increase the number of mask layers to 45.

Changes to Q4 2008 Test Report

-Place "development stage" field above "display by" field in report.

Participants must select a development stage in the report.

▪ **Q4 2008 WP & BE Survey Results:**

Assembly

-Delete row 2,6,7,8,9

-Keep 3,4,5,10,11,12,13

Test

-Keep all rows

Wafer

-Delete the rows in red (no response)

-Keep rows 6-11

Bump

-Keep row 2

-Delete row 3

Mask

-There was a min value of \$999 for 150, 200 & 300mm. Why wasn't this identified as an outlier? It needs to be thrown out.

- **Logistics Survey:** There is nothing out there right now that can provide a total supply chain management cost. In Dec 2007, Mark Ashton presented on the subject of *Hidden Logistics & Fulfillment Costs* to the GSA Technology Subcommittee and has since then developed a survey for distribution. The Supply Chain Subcommittee will review the survey and provide feedback. The Subcommittee will also take on the task of distributing the survey and providing meaningful data to the industry.

▪ **Future Timelines/Dates for Next Survey:**

- Q4 2008 Pricing Report Released: 12/23/2008
- Q1 2009 Wafer Pricing Survey Released: 1/12/2009
- Q1 2009 Wafer Pricing Survey Ends: 2/1/2009
- Q1 2009 Subcommittee Meeting: Week of 2/16/2009
- Q1 2009 Pricing Report Released: 3/2/2009