FPD Materials & Components Japan TC Chapter and FPD Metrology Japan TC Chapter Joint Meeting
Meeting Summary and Minutes

SEMI Japan Standards Spring 2014 Meetings
April 18, 2014, 14:00-17:00
SEMI Japan, Tokyo, Japan

Next Committee Meeting
FPD M&C Japan TC Chapter:
SEMI Japan Standards Fall 2014 Meetings
Thursday, October 30, 2014, 14:00-17:00
SEMI Japan, Tokyo, Japan

FPD Metrology Japan TC Chapter:
SEMI Japan Standards Fall 2014 Meetings
Thursday, October 30, 2014, 14:00-17:00
SEMI Japan, Tokyo, Japan

Table 1 Meeting Attendees
Co-Chairs of FPD M&C Committee: Tadahiro Furukawa (Yamagata University), Yoshi Shibahara (Fujifilm)
Co-Chairs of FPD Metrology Committee: Ryoichi Watanabe (Japan Display), Akira Kawaguchi (Otsuka Electronics)
SEMI Staff: Naoko Tejima (SEMI Japan)

<table>
<thead>
<tr>
<th>Company</th>
<th>Last</th>
<th>First</th>
<th>Company</th>
<th>Last</th>
<th>First</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yamagata University</td>
<td>Furukawa</td>
<td>Tadahiro</td>
<td>Fujifilm</td>
<td>Shibahara</td>
<td>Yoshi</td>
</tr>
<tr>
<td>Teijin</td>
<td>Shiro</td>
<td>Takashi</td>
<td>Japan Display</td>
<td>Watanabe</td>
<td>Ryoichi</td>
</tr>
<tr>
<td>Nitto Denko</td>
<td>Kobayashi</td>
<td>Shigeo</td>
<td>ITRI</td>
<td>Wen</td>
<td>Bor-Jiunn</td>
</tr>
<tr>
<td>HOYA</td>
<td>Nitobe</td>
<td>Kaname</td>
<td>SEMI Japan</td>
<td>Tejima</td>
<td>Naoko</td>
</tr>
<tr>
<td>Konica Minolta</td>
<td>Ochi</td>
<td>Keizo</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* alphabetical order by last name

Table 2 Leadership Changes
FPD M&C Japan TC Chapter

<table>
<thead>
<tr>
<th>Group</th>
<th>Previous Leader</th>
<th>New Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>Committee Co-Chairs</td>
<td>Hisashi Aruga (Seiko Epson)</td>
<td>TBD</td>
</tr>
<tr>
<td>FPD Color Filter Task Force</td>
<td>Hisashi Aruga (Seiko Epson)</td>
<td>Tadahiro Furukawa (Yamagata University)</td>
</tr>
<tr>
<td>Flexible Display Task Force</td>
<td>Takashi Shiro (Teijin)</td>
<td>Haruhiko Itoh (Teijin)</td>
</tr>
<tr>
<td>FPD Mask Task Force</td>
<td>None.</td>
<td>Kaname Nitobe (HOYA)</td>
</tr>
<tr>
<td>was newly set up.</td>
<td></td>
<td>Kazuya Shiojiri (SK Electronics)</td>
</tr>
</tbody>
</table>

FPD Metrology Japan TC Chapter

None.
Table 3 Ballot Results

Passed ballots and line items will be forwarded to the ISC Audit & Review Subcommittee for procedural review.

Failed ballots and line items were returned to the originating task forces for re-work and re-balloting.

FPD M&C Japan TC Chapter

None.

<table>
<thead>
<tr>
<th>Document #</th>
<th>Document Title</th>
<th>Committee Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>5685</td>
<td>Line Item Revision to SEMI D31-0213, with title change from “Definition of Measurement Index (DSEMU) for Luminance Mura in FPD Image Quality Inspection” to “Guide for Definition of Measurement Index (DSEMU) for Luminance Mura in FPD Image Quality Inspection”</td>
<td>Passed as balloted</td>
</tr>
</tbody>
</table>

Table 4 Authorized Ballots

None.

Table 5 Authorized Activities

FPD M&C Japan TC Chapter

<table>
<thead>
<tr>
<th>#</th>
<th>Type</th>
<th>SC/TF/WG</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>TFOF</td>
<td>FPD Mask TF</td>
<td>A task force was newly set up to explore the possibility of the Standardization of FPD Mask and to revise the existed documents.</td>
</tr>
</tbody>
</table>

FPD Metrology Japan TC Chapter

None.

Table 6 New Action Items

FPD M&C Japan TC Chapter

<table>
<thead>
<tr>
<th>Item #</th>
<th>Assigned to</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPD M&amp;C 140214-03</td>
<td>SEMI Staff</td>
<td>To make the SNARF and to submit reapproval ballot of SEMI D9, Terminology for FPD Substrates, for Cycle 3, 2014</td>
</tr>
<tr>
<td>FPD M&amp;C 140418-01</td>
<td>SEMI Staff</td>
<td>To contact co-leaders of Backlight TF and ask them about their opinion whether the TF activities should be continued or not.</td>
</tr>
</tbody>
</table>

FPD Metrology Japan TC Chapter

<table>
<thead>
<tr>
<th>Item #</th>
<th>Assigned to</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPD MET 140418-01</td>
<td>SEMI Staff</td>
<td>To forward adjudication result of Doc.5685 to the ISC A&amp;R Subcommittee for procedural review.</td>
</tr>
</tbody>
</table>
[Common Part 1]

1 Welcome, Reminders, and Introductions
Tadahiro Furukawa, committee co-chair, called the meeting to order at 14:00. Self-introductions were made followed by the agenda review.

2 Required Meeting Elements
The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed by SEMI staff, Naoko Tejima.

3 SEMI Staff Report
Attachment: 01_SEMI_Staff_Report_140418

4 Liaison Reports
4.1 Korea FPD Committee Report
Naoko Tejima reported for the Korea FPD Metrology Committee. This report included Leadership, Organization Chart, Meeting Information, Major Updates, Subcommittee/TF/WG Updates and Contact Information.
Attachment: 02_KR_FPD_Liaison_Report_140418

4.2 Taiwan FPD Committee Report
Naoko Tejima reported for the Taiwan FPD Committee. This report included Leadership, Organization Chart, Meeting Information, New SNARFs and TFOFs, Ballot Results, Upcoming Ballots, Task Force Updates and Contact Information.
Attachment: 03_TW_FPD_Liaison_Report_140418

[Japan FPD Materials & Components Committee Part]

5 Leadership Changes
Hisahi Aruga stepped down from a co-chair’s position of the FPD Materials & Components Japan TC Chapter, and his replacement is TBD.

6 Review of Previous Meeting Minutes
The committee reviewed the minutes of the previous meeting held on February 14, 2014.

Motion: To approve the minutes of the previous meeting as written.
By / 2nd: Yoshi Shibahara (Fujifilm) / Ryoichi Watanabe (Japan Display)
Discussion: None
Vote: 5 in favor and 0 opposed. Motion passed.
Attachment: 04_JA_FPD_M&C_Previous_Mtg_Minutes_140418
7 Task Force Reports

7.1 Polarizing Film Task Force
Yoshi Shibahara reported for the Polarizing Film Task Force. The Task Force met earlier in the day. Of note:

- Working for Doc. #5555, Revision to SEMI D50-0707, Test Method for Surface Hardness of FPD Polarizing Film.
- Discussing new business which may be able to standardize, such as Circular Polarization, Touch Screen Panel, Mechanical Test, Optical Properties, Environmental Test, Size, Recycle and so on..

7.2 Backlight Task Force
No report was provided by the Task Force. SEMI will contact co-leaders and ask their opinions whether the TF activities should be continued or not. If they do not have intent to continue, the TC chapter will disband the TF.

Action Item: SEMI to contact co-leaders of Backlight TF and ask their opinion whether the TF activities should be continued or not.

7.3 Flexible Display Task Force
Tadahiro Furukawa reported on progress for the Flexible Display Task Force. The Task Force met earlier in the day. Of note:

- Takashi Shiro (Teijin) stepped down from a co-chair’s position of the Flexible Display Task Force, and Haruhiko Itoh (Teijin) was appointed as a new co-leader.

Motion: To approve Haruhiko Ito to assume a co-leader’s position of the Flexible Display Task Forces.
By / 2nd: Ryoichi Watanabe (Japan Display) / Keizo Ochi (Konica Minolta)
Discussion: None
Vote: 5 in favor and 0 opposed. Motion passed.

7.4 Color Filter Task Force
Tadahiro Furukawa reported for the Color Filter Task Force. Of note:

- Hisashi Aruga, co-leader of the TF stepped down from a co-leader position, and his replacement is Tadahiro Furukawa.
8 Old Business

8.1 Previous Meeting Action Items

Naoko Tejima reviewed the previous meeting action items.

Table 7 Previous Meeting Actions Items

<table>
<thead>
<tr>
<th>Item #</th>
<th>Assigned to</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPD M&amp;C 140214-02</td>
<td>Kaname Nitobe, Kazuya Shiojiri</td>
<td>To prepare TFOF of Mask Task Force … Close</td>
</tr>
<tr>
<td>FPD M&amp;C 140214-03</td>
<td>SEMI Staff</td>
<td>To make the SNARF and to submit reapproval ballot of SEMI D9, Terminology for FPD Substrates, for Cycle 3, 2014 … Open</td>
</tr>
<tr>
<td>FPD M&amp;C 140214-04</td>
<td>SEMI Staff</td>
<td>To change the status of SEMI D41-0305, Measurement Method of SEMI MURA in FPD Image Quality Inspection, to Inactive … Close</td>
</tr>
</tbody>
</table>

9 New Business

9.1 Proposal of setting up FPD Mask Task Force

Kaname Nitobe proposed to newly set up FPD Mask Task Force.

- TF Co-leaders: a Kaname Nitobe (HOYA), Kazuya Shiojiri (SK Electronics)
- Charter:
  - To update FPD Mask Standards with latest information and industry accepted terms
  - To develop technical standard specifications and guides related to photomask for FPD manufacturing.
- Scope:
  1. Develop specifications/guides for photomask for FPD manufacturing.
  2. Develop specifications/guides for equipment, components and materials to manufacture the photomask for FPD.
  3. Specify equipment and materials used for test and inspection in the specification and for quality control of the photomask for FPD.
  4. Revise the Standards due for 5-Year Review

Motion: To set up FPD Mask Task Force and Kaname Nitobe (HOYA) and Kazuya Shiojiri (SK Electronics) to assume a co-leader’s position of the FPD Mask Task Forces.

By / 2nd: Kazuya Nitobe (HOYA) / Yoshi Shibahara (Fujifilm)

Discussion: None

Vote: 5 in favor and 0 opposed. Motion passed.

Attachment: 05_FPD_Mask_TF_TFOF_140418
[Japan FPD Metrology Committee Part]

10 Review of Previous Meeting Minutes

The committee reviewed the minutes of the previous meeting held on October 24, 2013. The following questions are raised:

- Regarding “Table1 Meeting Attendee”, if the one of co-chairs did not attend the meeting, should his/her name be included as Co-Chairs name in the meeting minutes?

  **Response from SEMI**: All co-chairs name should be included in the meeting minutes (after ‘Co-Chairs of **** Committee’, not in the table), even though he/she did not attend.

**Motion**: To approve the minutes of the previous meeting as written after the revise the Co-Chairs name in the Table1.

**By / 2nd**: Keizo Ochi (Konica Minolta) / Tadahiro Furukawa (Yamagata University)

**Discussion**: None

**Vote**: 5 in favor and 0 opposed. **Motion passed**.

**Attachment**: 06_JA_FPD_Metrology_Previous_Mtg_Minutes_140418

11 Ballot Review

11.1 Doc.#5685, Line Item Revision to SEMI D31-0213, with title change from “Definition of Measurement Index (DSEMU) for Luminance Mura in FPD Image Quality Inspection” to “Guide for Definition of Measurement Index (DSEMU) for Luminance Mura in FPD Image Quality Inspection”

**Action Item**: SEMI staff to forward adjudication result of Doc.5685 to the ISC A&R Subcommittee for procedural review.

**Attachment**: 07_Ballot_Review_for_5685_140418

12 Task Force Reports

12.1 D31 Revision Task Force

Keizo Ochi reported on progress for the D31 Revision Task Force. Of note:

- Doc.#5685, Line Item Revision to SEMI D31-0213, with title change from “Definition of Measurement Index (DSEMU) for Luminance Mura in FPD Image Quality Inspection” to “Guide for Definition of Measurement Index (DSEMU) for Luminance Mura in FPD Image Quality Inspection” was reviewed as previously discussed. (See 11.1).

13 Old Business

13.1 Previous Meeting Action Items

Naoko Tejima reviewed the previous meeting action items.

**Table 8 Previous Meeting Actions Items**

<table>
<thead>
<tr>
<th>Item #</th>
<th>Assigned to</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPD MET 131024-01</td>
<td>D31 Revision Task Force</td>
<td>To submit Doc.#5685 for Cycle 1, 2014. … Close</td>
</tr>
<tr>
<td>FPD MET 131024-02</td>
<td>Co-chairs</td>
<td>To decide how D41 should be handled (inactive? or revised?) … Close</td>
</tr>
</tbody>
</table>
14 New Business
None.

[Common Part 2]

15 Action Item Review
15.1 New Action Items
Naoko Tejima reviewed the new action items. These can be found in the New Action Items table at the beginning of these minutes.

16 Next Meeting and Adjournment
The next meeting of the FPD Materials & Components Japan TC Chapter and the FPD Metrology Japan TC Chapter Joint Meeting is scheduled for Thursday, October 30, 2014, 14:00-17:00, SEMI Japan, Tokyo, Japan
Respectfully submitted by:
Naoko Tejima
Manager, Standards
SEMI Japan
Phone: +81.3.3222.5804
Email: ntejima@semi.org

Minutes approved by:
Tadahiro Furukawa (Yamagata University), Co-chair of JA FPD M&C Committee Jul. 28, 2014
Yoshi Shibahara (Fujifilm), Co-chair of JA FPD M&C Committee Jul. 25, 2014
Ryoichi Watanabe (Japan Display), Co-chair of JA FPD Metrology Committee Jul. 25, 2014

Table 9 Index of Available Attachments #1

<table>
<thead>
<tr>
<th>#</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SEMI_Staff_Report_140418</td>
</tr>
<tr>
<td>2</td>
<td>KR_FPD_Liaison_Report_140418</td>
</tr>
<tr>
<td>3</td>
<td>TW_FPD_Liaison_Report_140418</td>
</tr>
<tr>
<td>4</td>
<td>JA_FPD_M&amp;C_Previous_Mtg_Minutes_140418</td>
</tr>
<tr>
<td>5</td>
<td>FPD_Mask_TF_TFOF_140418</td>
</tr>
<tr>
<td>6</td>
<td>JA_FPD_Metrology_Previous_Mtg_Minutes_140418</td>
</tr>
<tr>
<td>7</td>
<td>Ballot_Report_for_5685_140418</td>
</tr>
</tbody>
</table>

#1 Due to file size and delivery issues, attachments must be downloaded separately. A .zip file containing all attachments for these minutes is available at www.semi.org. For additional information or to obtain individual attachments, please contact Naoko Tejima at the contact information above.