



FPD Metrology Korea TC Chapter

Meeting Summary and Minutes

October 24, 2024, 14:00 – 16:00 (KST)

TC Chapter Announcements

Next TC Chapter Meeting

March 20, 2025, 14:00 – 16:00 (KST)

at SEMI Korea office in Seoul. (Hybrid)

Table 1 Meeting Attendees

Italics indicate virtual participants

Co-Chairs: Jaehong Kim (LG Display) / Yongwoo Yi (Samsung Display)

SEMI Staff: Natalie Shim (SEMI Korea)

<i>Company</i>	<i>Last</i>	<i>First</i>	<i>Company</i>	<i>Last</i>	<i>First</i>
<i>KIPO</i>	<i>Kang</i>	<i>Kyung Jin</i>	Samsung Display	Kim	Suyoung
LG Display (LGD)	Kim	Jaehong	Samsung Display	Lee	Seungmin
LG Display (LGD)	Jeong	Jongho	Samsung Display	Yi	Yongwoo
LG Electronics	Lee	Myongyoung	SEMI Korea	Shim	Natalie
LG Electronics	Ryu	Ji Bong			

Table 2 Leadership Changes

None

Table 3 TC Chapter Structure Changes

None

Table 4 Ballot Results

<i>Document #</i>	<i>Document Title</i>	<i>Committee Action</i>
6975D	Test Method for Response Time Evaluation of Displays with VARIABLE Refresh Rate	Passed with Editorial changes
7154	Test Method for Flicker of Flat Panel Display	Failed and rework

#1 **Passed** ballots and line items will be submitted to the ISC Audit & Review Subcommittee for procedural review.

#2 **Failed** ballots and line items were returned to the originating task forces for re-work and re-balloting or abandoning.

Table 5 Activities Approved by the GCS between meetings of the TC Chapter

None



Table 6 Authorized Activities

None

Table 7 Authorized Ballots

None

Table 8 SNARF(s) Granted a One-Year Extension

None

Table 9 SNARF(s) Abolished

None

Table 10 Standard(s) to receive Inactive Status

None

Table 11 New Action Items

#	TF	Details
2024-1024-1	Picture Quality Evaluation TF	To be decided if D76-0318 (Test Method for Viewing Angle Characteristic Using Reference Color on Visual Displays) needs a 5-year review by the next meeting. (Continued)

Table 12 Previous Meeting Action Items

#	TF	Details
2024-0813-1	Picture Quality Evaluation TF	To be decided if D76-0318 (Test Method for Viewing Angle Characteristic Using Reference Color on Visual Displays) needs a 5-year review by the next meeting. Need more discussion.



1 Welcome, Reminders, and Introductions

Jae Hong Kim (LG Display) called the meeting to order at 14:00 (KST). The meeting reminders on antitrust issues, intellectual property issues, and holding meeting with international attendees were reviewed. Attendees introduced themselves.

Attachment 1: 01, FPDM_Agenda_Oct24_2024.pdf

Attachment 2: 02, Required Meeting Elements March 2024.pdf

2 Review of Previous Meeting Minutes

2.1 The TC Chapter reviewed the minutes of the previous meeting.

Motion: Review and Approval of Previous Meeting Minutes

By / 2nd: Jongho Jeong (LG Display) / Yongwoo Yi (Samsung Display)

Discussion: None

Vote: 6-0, Motion carried

Attachment 3: 03, FPDM_KR_Minutes_20240813.pdf

3 Liaison Reports

3.1 FPD Metrology Japan TC Chapter

Natalie Shim (SEMI Korea) reported for the FPD Metrology Japan TC Chapter. Of note:

3.1.1 Meeting Information

- Last Meeting: June 21, 2024 at Japan office and OVTCCM
- Next Meeting: October 21, 2024 at Japan office and OVTCCM

3.1.2 Committee Structure Changes

- FPD Metrology Maintenance task force is newly formed.
- Co-leaders: Ryoichi Watanabe (Japan Display), Akira Kawaguchi (Otsuka Electronics), Tadahiro Furukawa (Yamagata Univ)

3.1.3 Authorized Activities

- Doc. 7259, Revision to SEMI D31-0318, Guide for Definition of Measurement Index (DSemu) for Luminance Mura in FPD Image Quality Inspection, with title change to: Guide for Definition of Measurement Index (DSemu) for Luminance Mura in FPD Image Quality

3.1.4 Authorized Ballots for Cycle 6, 2024

- Doc. 7259, Revision to SEMI D31-0318, Guide for Definition of Measurement Index (DSemu) for Luminance Mura in FPD Image Quality Inspection, with title change to: Guide for Definition of Measurement Index (DSemu) for Luminance Mura in FPD Image Quality

3.1.5 Task Force Highlight

- Plan to address 5-year review documents as well as to review the proposed documents of the global FPD Metrology TC Chapter.
- TC authorized the SANRF for Revision to SEMI D31-0318 and ballot for cycle 6, 2024

Attachment 4: 04, FPD Met_JA_Liaison Report Oct 2024_R0.pdf

3.2 FPD Metrology Taiwan TC Chapter

Natalie Shim reported for the FPD Metrology Taiwan TC Chapter. Of note:

3.2.1 Meeting Information

- Last Meeting: October 4, 2024, OVTCCM
- Next Meeting: April 11, 2025, OVTTTCM

3.2.2 Ballot Adjudication

3.2.2.1 Doc. 7220 (Reapproval of SEMI D59-0519, Terminology for 3D Display) passed

3.2.2.2 Doc. 7221 (Reapproval of SEMI D62-0619, Test Method for Measurement of LED Light Bar for Liquid Crystal Displays) passed

3.2.3 Authorized Activities

3.2.3.1 SNARF 7294 (Reapproval of SEMI D65-0719, Test Method for Measurement for the Color Breakup of Field Sequential Color Display)

3.2.3.2 SNARF 7295 (Reapproval of SEMI D68-0719, Test Method for Optical Properties of Electronics Paper Display)

3.2.4 Authorized Ballots for Cycle 9, 2024

3.2.4.1 Doc. 7294 (Reapproval of SEMI D65-0719, Test Method for Measurement for the Color Breakup of Field Sequential Color Display)

3.2.4.2 Doc. 7295 (Reapproval of SEMI D68-0719, Test Method for Optical Properties of Electronics Paper Display)

3.2.5 Task Force Highlight

3.2.5.1 Transparent Display Task Force

3.2.5.1.1 Doc. 6201B (New Standard, Guide for Tone Reproduction Curves for Transparent Displays) is submitted to cycle 7, 2023, and passed committee review with super clean. It is in the A&R review process.

3.2.5.1.2 SNARF XXXX (Reapproval of SEMI D59-0519, Terminology for 3D Display) approved and will issue a reapproval ballot.

3.2.5.1.3 Regarding Doc. 6737 (New Standard, Test Method of Binocular Image Fusion for Augmented Reality Transparent Displays), no further progress and committee members agree to start the draft after the completion of the 6201 task on 4/7 and 6/2 meetings

3.2.5.2 Flexible Display Task Force

3.2.5.2.1 Doc. 6632C (New Standard, Test Method of Flicker Nuisance for Wide Visual-Field Displays) is submitted to cycle 7, 2023, and passed committee review with super clean. It completed A&R process.

3.2.5.2.2 SNARF 7221 (Reapproval of SEMI D62-0619, Test Method for Measurement of LED Light Bar for Liquid Crystal Displays) is approved and submitted the ballot at cycle 4, 2024. The details will be discussed at the next committee meeting.

3.2.5.3 Maintenance Task Force

3.2.5.3.1 Doc. 6960 (Revision to SEMI D57, Guide for Definition of Measurement Index (VCT) for Mura in FPD Image Quality Inspection) completed A&R process.

3.2.5.3.2 Doc. 6961 (Line Item Revision to SEMI D58 Terminology and Test Pattern for the Color Breakup of Field Sequential Color Display) completed A&R process.

Attachment 5: 05, FPD Taiwan Liaison Report_20241004_R1.pdf



3.3 SEMI Staff Report

Natalie Shim gave the SEMI Staff Report. Details are in the attached report.

3.3.1 SEMI Global 2024 Calendar of Events

3.3.1.1 Starting in 2025, SEMICON West is scheduled to be held alternately every other year between Arizona (AZ) and California (CA) in the United States.

3.3.2 SEMI Standards Publications

3.3.2.1 Total SEMI Standards in the portfolio: 1,088 (Including 342 Inactive standards)

3.3.3 SEMI Regulations & Procedure Manual & Online Voting System Updated

3.3.4 Use of Connect@SEMI for TF Management and Document Development Depository

Attachment 6: 06, Staff Report Oct 2024.pdf

4 Ballot Review

NOTE 1: TC Chapter adjudication on ballots reviewed is detailed in the Audits & Review (A&R) Subcommittee Forms for procedural review. The A&R forms are available as attachments to these minutes. The attachment number for each balloted document is provided under each ballot review section below.

4.1 Doc. 6975D (Test Method for Response Time Evaluation of Displays with Variable Refresh Rate)

- Motion: Passed committee adjudication.
- By/2nd: Jae Hong Kim (LG Display) / Ji Bong Liu (LG Display)
- Discussion: None
- Vote: 5-0, Pass 100%, Motion carried

4.2 Doc.7154 (Test Method for Flicker of Flat Panel Display)

- Motion: the committee found that the negative #1 of reject #3 from Akira Kawaguchi/Otsuka Electronics is related and persuasive. The 7154 failed and was sent to task force rework.
- By/2nd: Seungmin Lee (Samsung Display)/Jongho Jeong (LG Display)
- Discussion: None
- Vote: 5-0, Pass 100%, Motion carried

Attachment 7: 07, 6975D_A&R rev2_passed.pdf

5 Subcommittee and Task Force Reports

5.1 Automotive Display Task Force

- No update

5.2 Picture Quality Evaluation Task Force

- No update

6 Old Business

None

7 New Business

7.1 Identified Issues with CIE Copyright Compliance During the Revision of D61-0723

7.1.1 Background

7.1.1.1 During the revision of 7156 (D61-0723, Test Method of Perceptual Angle OLED Display, retitled to Test Method of Viewing Angle for Flat Panel Displays Using Color Volume), several instances were identified where references to CIE materials did not comply with CIE copyright usage guidelines.

7.1.1.2 Regarding this CIE copyright issue, there was a reject submitted by a Taiwanese expert during 7156A circulation in cycle5-24. In order to resolve this opinion, it was agreed to 7156 Author ask CIE for copyright-related policies and official position at the August 13th Korea TC meeting.

7.1.1.3 Korea TC received a response from CIE that there is no problem in using CIE content if guidelines are applied correctly. Below is the full text from CIE.

According to our policy, we can grant permission that you use the CIE copyrighted foreground to the extent as requested in the revision of the SEMI document(D61-0723), provided that you please regard the following conditions:

The CIE Policy requires that it is clearly indicated which parts are taken from the CIE document and which are changes to the CIE document. So, please, throughout the document (Appendix), please make sure that it is clear where you directly use CIE foreground (if quoted directly and unchanged, please put into quotation marks). If you use CIE foreground and adapt it, please make this clear in the document.

Regarding quotations: It is important that you cite CIE 248:2022 in the exact context in the appendix where you use the equation from CIE 248:2022. This means that you please explicitly mark the part of the text in your document which is directly quoted from a CIE document as a quote and give the appropriate reference.

Just for an example (you should cite like this or in a similar manner that will clearly state the equation(s) is from CIE 248:2022):

“The brightness items were calculated using the following equation(s) from CIE 248:2022 (CIE, 2022) ...”

Besides, upon having quoted in the text, in the reference list please give the full reference to the CIE document, for example (the example is based on the CIE recommendation on how to cite CIE documents, using Harvard Style referencing).

CIE, 2022. CIE 248:2022. The CIE 2016 Colour Appearance Model for Colour Management Systems: CIECAM16. Vienna: CIE. <https://doi.org/10.25039/TR.248.2022>

The CIE policy and any good practice in publications assume that the organization quoting CIE copyrighted foreground legally owns the publication. For your reference, alle CIE publications can be bought on the CIE webshop: <https://store accuristech.com/cie/>?

7.1.2 The issues are outlined

7.1.2.1 According to the background described in 7.1.1, the official position of CIE was confirmed as 7.1.1.3

7.1.2.2 After checking the official CIE position and SEMI regulation, it is necessary to discuss within Korea TC how to deal with it.

7.1.2.3 Jaehong Kim, author of document 7165(D61-0723, Test Method of Perceptual Angle OLED Display, retitled to Test Method of Viewing Angle for Flat Panel Displays Using Color Volume), summarized the issues below.

7.1.2.3.1 Incorrect Citation Format

7.1.2.3.1.1 The CIE Office requires that all documents listed in the “Referenced Standards and Documents” section must include complete and accurate references. However, the references to CIE documents in Section 3 of D61-0723 are improperly formatted.

7.1.2.3.1.2 Identified Issue: The citation format for CIE documents is incomplete or incorrect.

7.1.2.3.2 Unmarked Direct Quotations

7.1.2.3.2.1 Text directly quoted from CIE documents must be clearly marked and appropriately referenced. However, several instances of unmarked direct quotations from CIE documents were found in D61-0723.

7.1.2.3.2.2 Identified Issue: Quoted text from CIE documents is included without quotation marks or proper referencing.

7.1.2.3.3 Missing References for CIE Models

7.1.2.3.3.1 The D61-0723 standard makes use of the CIELAB and CIELUV color models to calculate color volume. However, the relevant CIE reference document, CIE Colorimetry 15 (Third Edition), CIE, 2004, ISBN 3-901-906-33-9, is absent from the “Referenced Standards and Documents” section.

7.1.2.3.3.2 Identified Issue: The CIE Colorimetry 15 document is missing from the reference list, despite being used to support key calculations in the standard.

7.1.2.4 This omission constitutes a copyright violation under CIE guidelines.

7.1.3 Jaehong Kim, the author of document 7156(D61-0723, Test Method of Perceptual Angle OLED Display, retitled to Test Method of Viewing Angle for Flat Panel Displays Using Color Volume), made a motion below.

- Motion: Request approval from GCS for the withdrawal SNARF of D61 and authorization for ballot in cycle 2, 2025.
- Proposed by / Seconded by: Jaehong Kim / Ji Bong Ryu
- Vote by Interest: Yes – 3, No – 1, Motion carried
- Discussion:
 - Jaehong Kim(LG Display): In response to SEMI FPDM's inquiry, we received an official answer from CIE on citation and copyright issue as described in 7.1.1.3. There are too many copyright issues throughout the D61 document. The citation issue of SEMI D61 document has been officially mentioned in the CIE. Therefore, if CIE raises copyright issue to SEMI, it is judged that legal issue for D61 document may occur. There are concerns about the document revision as well. Even if we proceed with the revision, we cannot be complimentary about the legal issue, as D61 is on sale. I think it is reasonable to work on the new document after withdrawing it.
 - Suyoung Kim(Samsung Display): Regarding the CIE copyright issue raised in SEMI D61, Suyoung Kim strongly objects to the proposal to withdraw the document. The CIE's copyright handling guidelines do not mandate the unconditional deletion of problematic sections, and therefore, the current D61 document can be sufficiently revised to comply with these guidelines. Withdrawing the document entirely is an unreasonable course of action and could be perceived as an attempt to discard the standard altogether. She firmly proposes that the author of D61-0723 address the CIE copyright issue through targeted revisions and coordinate their efforts with the ongoing revision activities led by Jaehong Kim.
 - Although the Korea TC Chapter decided to withdraw D61 based on the Voting by Interest results, it was agreed to request SNARF approval through the GCS process to seek a second opinion.

8 Next Meeting and Adjournment

The next meeting is scheduled for Thursday, March 20, 2025 at SEMI Korea office in Seoul. See <http://www.semi.org/standards-events> for the current list of events.

Adjournment: 16:30.

Respectfully submitted by:

Natalie Shim



Manager, Standards

SEMI Korea

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Minutes tentatively approved by:

Jaehong Kim (LG Display)	1/14/2025
Yongwoo Yi (Samsung Display)	1/14/2025

Table 13 Index of Available Attachments#1

<i>Title</i>	<i>Title</i>
01, FPDM_Agenda_Oct24_2024.pdf	05, FPD Taiwan Liaison Report_20241004_R1.pdf
02, Required Meeting Elements March 2024.pdf	06, Staff Report Oct 2024.pdf
03, FPDM_KR_Minutes_20240813.pdf	07, 6975D_A&R rev2_passed.pdf
04, FPD Met_JA_Liaison Report Oct 2024_R0.pdf	

#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 Natalie Shim at the contact information above.