



STANDARDS NEW ACTIVITY REPORT FORM (SNARF)

Date Prepared: 2018/02/02

Revised (if Applicable): 2018/04/13

SNARF for: New Standard, Specification for Viewing Angle of Flat Panel Displays

Originating Global Technical Committee: Flat Panel Display (FPD) - Metrology

Originating TC Chapter: Korea

Task Force (TF) in which work is to be carried out: Perceptual Viewing Angle Task Force

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Refer to *Procedure Manual* § 2.2.4.2 for more information on properly filling out the SNARF.

1. Rationale:

a: Describe the need or problem addressed by this activity.

(Indicate the customer, what benefits they will receive, and if possible, quantify the impact on the return on investment [ROI] if the Document is implemented.)

In display technology parlance, viewing angle is the maximum angle at which a display can be viewed with acceptable visual performance. Based on old TN LCD screens, manufacturers have opted to measure the contrast ratio, and report the viewing angle as the angle where the contrast ratio exceeds 10:1, giving minimally acceptable viewing conditions. As the results, most of the contemporary displays become to have the same viewing angle of 178 degree so that it cannot be information for customers any more. Therefore, this specification should be considered to be suitable to the current display performance. In order to evaluate native properties of contemporary flat panel displays, viewing angle can be measured based on variation of chromaticity and luminance by viewing direction as well as contrast.

b: Estimate effect on industry.

Check one of the following:

- ☐ 1: Major effect on entire industry or on multiple important industry sectors - identify the relevant sectors
- ☒ 2: Major effect on an industry sector – FPD Display manufacturer, Display product consumer, Entire display market.
- ☐ 3: Major effect on a few companies - identify the relevant companies
- ☐ 4: Slight effect or effect not determinable

c: Estimate technical difficulty of the activity.

Check one of the following:

- ☐ I: No Difficulty – Proven concepts and techniques exist or quick agreement is anticipated
- ☒ II: Some Difficulty – Disagreements on known requirements exist, but developing consensus is possible

- ☐ III: Difficult – Limited expertise and resources exist and/or achieving consensus is difficult
- ☐ IV: Extremely Difficult – Expertise and resources are scarce and/or achieving consensus is very difficult

2. Scope:

a: Describe the technical areas to be covered or addressed by this Document development activity. For Subordinate Standards, list common concepts or criteria that the Subordinate Standard inherits from the Primary Standard, as well as differences from the Primary Standard:

To introduce viewing angle measurement and evaluation specification for flat panel displays under darkroom condition.

Current viewing angle requirements for visual displays are listed as follows:

1. ISO 13406-2:2002 "Ergonomic requirements for work with visual displays based on flat panels – Part 2: Ergonomic requirements for flat panel displays."
2. ISO 9241-307:2008 "Ergonomics of human-system interaction – Part 307: Analysis and compliance test methods for electronics visual displays."

Methods for viewing angle measurement is list below:

1. ICDM IDMS version 1.03 (Section 9.2 ~ 9.6) (2012).

b: Expected result of activity

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- | | |
|--|---|
| <input checked="" type="checkbox"/> New Standard or Safety Guideline (including replacement of an existing Standard or Safety Guideline) | <input type="checkbox"/> Reapproval of a Standard or Safety Guideline |
| <input type="checkbox"/> New Subordinate Standard to an existing Standard or to a new Primary Standard to be developed concurrently with this new Subordinate Standard | <input type="checkbox"/> Removal of a Standard or Safety Guideline |
| <input type="checkbox"/> New Preliminary Standard | <input type="checkbox"/> Withdrawal of a Standard or Safety Guideline |
| <input type="checkbox"/> Major revision to an existing Standard or Safety Guideline | <input type="checkbox"/> Reinstatement of a Standard or Safety Guideline |
| <input type="checkbox"/> Line-item revision to an existing Standard or Safety Guideline | <input type="checkbox"/> New Auxiliary Information |
| <input type="checkbox"/> Line-item revision to two or more existing Standards or Safety Guidelines | <input type="checkbox"/> Modification of existing Auxiliary Information |
| | <input type="checkbox"/> Publication of an existing Standard or Safety Guideline as an American National Standard |

For a new Subordinate Standard, identify the Primary Standard here:

For revision of existing Standard(s) or Safety Guideline(s), identify the Standard(s) or Safety Guideline(s) that are to be revised here: _____, and identify which parts of the Standard(s) or Safety Guideline(s) that are to be revised. (Check all that apply.)

-
- ☐ Modification of an existing part of Standard(s) or Safety Guideline(s) including Appendices, Complementary Files, and Supplementary Materials
 - ☐ Addition of one or more Appendices or Complementary Files to an existing Standard or Safety Guideline
 - ☐ Addition of one or more Related Information sections or Various Materials to an existing Standard or Safety Guideline

☐ Revision or addition of one or more Subordinate Standards to an existing Primary Standard

For Standards, identify the Standard Subtype below:

- | | |
|---|---|
| <input type="checkbox"/> Classification | <input type="checkbox"/> Guide |
| <input type="checkbox"/> Practice | <input checked="" type="checkbox"/> Specification |
| <input type="checkbox"/> Test Method | <input type="checkbox"/> Terminology |
| <input type="checkbox"/> Miscellaneous (describe below) | |
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3. Projected Timetable for Completion:

a: General Milestones

- | | |
|--|---|
| a. Activity Start: 2018/02/02 | b. 1 st Draft by: 2018/03/01 |
| c. (Optional) Informational Ballot by: | d. Letter Ballot by: 2018/03/23 |
| e. TC Chapter Approval By: 2019/04/30 | |
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4. Liaisons with other Global Technical Committees/TC Chapters/Subcommittees/TFs:

a: List global technical committees, TC Chapters, subcommittees, or task forces in your or other Regions/Locales that should be kept informed regarding the progress of this activity. (Refer to SEMI Standards organization charts and global technical committee charters as needed.)

FPD Metrology Committees

b: Intercommittee Ballots (check one):

- ☐ will be issued – identify the recipient global technical committee(s):
☒ will not be issued
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5. Safety Considerations:

The resulting Document is expected (Check one):

- ☐ to be a Safety Guideline
☒ NOT to be a Safety Guideline

NOTE FOR 'to be a Safety Guideline': When all safety-related information is removed from the Document, the Document is NOT technically sound and complete – Refer to § 15.1 of the *Regulations* for special procedures to be followed.

NOTE FOR 'NOT to be a Safety Guideline': When all safety-related information is removed from the Document, the Document is still technically sound and complete.

6. Intellectual Property Considerations:

a: For a new Standard or Safety Guideline and for any part to be modified or added in a Revision of published Standards and Safety Guidelines:

- ☒ the use of patented technology is NOT required.
☐ patented technology is intended to be included in the proposed Standard(s) or Safety Guideline(s).

(If the second box is checked, check one):

- ☐ Letter of Intent received
☐ Letter of Intent not received

b: For Revision, Reapproval, Reinstatement, or Withdrawal of existing Standard(s) and Safety Guideline(s):

- ☐ there is no known material patented technology necessary to use or implement the Standard(s) and Safety Guideline(s)
- ☐ there is previously known material patented technology necessary to use or implement the Standard(s) and Safety Guideline(s)

c: The body of the Document and any Appendices, Complementary Files, Related Information sections, or Various Materials that may or may not be a part of the Document by reference (Check one):

- ☐ will include reproduced copyrighted material
- ☒ will NOT include reproduced copyrighted material

NOTE FOR 'the use of patented technology or a copyrighted item(s) is NOT required': If in the course of developing the Document, that patented technology or copyrighted item(s) must be used to comply with the Document, the provisions of *Regulations* § 16 must be followed.

NOTE FOR 'will include reproduced copyrighted material': A copyright release letter must be obtained from the copyright owner.

7. Comments, Special Circumstances:

This SNARF has been revised on April 13, 2018 for title change from "New Standard, Test Method for Viewing Angle of Flat Panel Displays" to "New Standard, Specification for Viewing Angle of Flat Panel Displays"

8. TC Member Review (Check one):

- ☒ took place between (*put dates here: 01/15/2018 and 01/29/2018*) before approval at the TC Chapter Meeting, or
- ☐ took place between (*put dates here: MM/DD/YYYY and MM/DD/YYYY*) before approval by the GCS, or
- ☐ is not required for this SNARF.

NOTE FOR 'TC Member Review': A TC Member Review is required by the *Regulations* for a period of at least two weeks before approval of a new, or a major revision of an existing, Standard or Safety Guideline. (See *Regulations* ¶ 8.2.1)

9. Approval Dates:

TC Chapter or GCS: 2018-04-13

Recorded in TC Chapter Minutes: 2018-05-23

If you do not have email capability, you may fax this form to the nearest SEMI office:

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Europe: 32.2.416.6448
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