



## STANDARDS NEW ACTIVITY REPORT FORM (SNARF)

Date Prepared: November 28, 2017/December 19, 2017 Revised (if Applicable):

**SNARF for:** New Standard, Specification for Panel Substrate Characteristics for Fan-Out Panel Level Packaging (FO-PLP) Applications

**Originating Global Technical Committee:** 3D Packaging & Integration

**Originating TC Chapter:** North America

**Task Force (TF) in which work is to be carried out:** FO-PLP Panel Task Force

**Submitted by:** Cristina Chu, Richard Allen

**Company:** TEL, NIST

**Email:** [Cristina.Chu@us.tel.com](mailto:Cristina.Chu@us.tel.com), [richard.allen@nist.gov](mailto:richard.allen@nist.gov)

**Phone:** 617-301-0296, 301-975-5026

**Fax:**

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.)

Fan-Out Panel Level Packaging (FO-PLP) is under development and expected to become a critical 3D integration and packaging process. At the current time, numerous panel sizes are being investigated, which is delaying the introduction of the technology due to the need to customize tools and processes for each panel size.

In Fall 2017, SEMI surveyed members of the 3DP&I committee and a strong majority of the 65 respondents indicated the need for a standard size panel – or a small set of panel sizes – to accelerate the introduction of this technology.

#### 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:  
*Middle end of the line and substrate fabricators*

2: Major effect on an industry sector - identify the relevant sector:

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

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**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:**

This document will specify at least one panel substrate size (and may list more if needed) for use in the FO-PLP ecosystem. The document will also consider standardizing other parameters, for example ID marking, edge exclusion, as well as geometrical parameters such as total thickness variation (TTV), warp, etc.

**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.)

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- |  |
|--|
| <input type="checkbox"/> Modification of an existing part of Standard(s) or Safety Guideline(s) including Appendices, Complementary Files, and Supplementary Materials |
| <input type="checkbox"/> Addition of one or more Appendices or Complementary Files to an existing Standard or Safety Guideline   |
| <input type="checkbox"/> Addition of one or more Related Information sections or Various Materials to an existing Standard or Safety Guideline                         |
| <input type="checkbox"/> Revision or addition of one or more Subordinate Standards to an existing Primary Standard   |
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For Standards, identify the Standard Subtype below:

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- |   |   |
|---|---|
| <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: 11/7/2017
- b. 1<sup>st</sup> Draft by: 2/2018
- c. (Optional) Informational Ballot by:
- d. Letter Ballot by: 2/2018 (Cycle 2-18)
- e. TC Chapter Approval By: 11/2018

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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.)**

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**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.

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**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, 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:

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### 8. TC Member Review (Check one):

- took place between (*put dates here: and*) before approval at the TC Chapter Meeting, or  
 took place between (*put dates here: 11/30/2017 and 12/14/2017, 12/20/2017 and 01/03/2018*) 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)

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### 9. Approval Dates:

TC Chapter or GCS:

Recorded in TC Chapter Minutes:

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

SEMI HQ: 1.408.943.7943  
Europe: 32.2.416.6448  
Japan: 81.3.3222.5757  
Korea: 82.2.551.3406  
North America: 1.408.943.7943  
Taiwan: 886.3.573.3355