



PRODUCT INFORMATION LETTER

PIL CRP/14/8732
Dated 10 Oct 2014

Qualification of SPK reel - PSO10 - Bouskoura

| | |
|--|--|
| Sales Type/product family label | PSO10 |
| Type of change | Package assembly material change |
| Reason for change | Improve quality and secure the service and delivery of ST customers |
| Description | This change is concerning the qualification of a 2nd source of reel at ST BOUSKOURA-MOROCCO plant. This second source of reel material is SPK that will be used as an alternative to existing supplier PEAK. |
| Forecasted date of implementation | 14-Nov-2014 |
| Forecasted date of samples for customer | 10-Oct-2014 |
| Forecasted date for STMicroelectronics change Qualification Plan results availability | 03-Oct-2014 |
| Involved ST facilities | Bouskoura-Morocco Back end plant |

DOCUMENT APPROVAL

| Name | Function |
|--------------------|---------------------------|
| Livache, Veronique | Corporate Quality Manager |
| Low, Patrick | Process Owner |

Qualification of SPK reel – PSO10 - Bouskoura

1- WHAT is the change?

- This change is concerning the qualification of a 2nd source of reel at ST BOUSKOURA-MOROCCO plant
- This second source of reel material is SPK that will be used as an alternative to existing supplier PEAK.
- SPK supplier is already a qualified supplier for ST at Muar plant (Malaysia) since 2005 for same PSO10 products.
- Both PEAK and SPK reels are in same raw material but colour is different.
- No dimension differences between PEAK and SPK reels, and both of them are conformed to ST specification 0084694.

2- WHY:

Reason for this change is:

- Improve quality and secure the service and delivery of ST customers

3- WHEN will this change occur?

Target to deploy this change is W46 (November 2014).

4- HOW will the change be qualified?

This change is qualified using the standard STMicroelectronics procedures for quality and reliability.

Comparison between existing PEAK reel and new SPK reel:



Existing reel (PEAK)



2nd source reel (SPK)

5- IMPACTS OF THE CHANGE ON THE PRODUCTS:

Form: No change
Fit: No change
Function: No change

The changed here reported will not affect the electrical, dimensional and thermal parameters keeping unchanged all information reported on the relevant product's datasheets.

There are as well no modifications in the packing modes or in the standard delivery quantities.

6 - APPENDICES:

APPENDIX 1 Risk assessment
APPENDIX 2 Qualification Plan & results

APPENDIX 1: RISK ASSESSMENT

| # | Risks identified | Potential risk resulting from | Class | Considered action |
|---|---------------------------------------|---|-------|--|
| 1 | Manufacturing Issues | Machine Workability: 1. Stuck up carrier tape during winding, 2. Difficulty on inserting the reel on machine's tape & reel module , | Low | IQC dimensions check to perform Workability trials on equipment to perform as part of qualification exercise |
| 2 | Non conform material | Visual Inspection (out of specs dimension, contain foreign material, dent ,deformation) | Low | IQC dimensions check to perform |
| 3 | Packing problems | 1. Warpage during vacuum sealing 2. Label did not stick on the reel 3. Broken or crack reel during vacuum sealing | Low | Warpage test to perform during the qualification Dimensions in accordance with ST spec Drop test to perform during qualification |
| 4 | Transportation problems | Broken or crack reel | Low | Drop test to perform during qualification |
| 5 | Reliability | ESD / EOS | Low | ESD check to perform during qualification |
| 6 | Supply Chain: Quality issues (ECC) | Quality or reliability problems in the field | Low | Dimension & VM in accordance with ST spec ESD check to perform during qualification |

APPENDIX 2: QUALIFICATION PLAN & RESULTS

| ITEM | | WHEN | RESULTS |
|---------------------------|---|---------|---------|
| WORKABILITY & RELIABILITY | | | |
| 1 | Visual Inspection & Incoming Report with measurement | june'14 | PASSED |
| 2 | Document check : Drawing, MSDS, Data, COC dimension check VS Drawing and ST spec | June'14 | PASSED |
| 3 | ESD check | June'4 | PASSED |
| 4 | Workability check on Equipment & Dry packing process step on 3 reels | June'14 | PASSED |
| 5 | Warpage test | June'14 | PASSED |
| 6 | Drop test | June'14 | PASSED |
| 7 | 100% VI at FQC | June'14 | PASSED |
| 8 | Process 1 lots | June'14 | PASSED |
| 9 | 100 % VI FQC for reel packed for external aspect | June'14 | PASSED |

Conclusion: all tests passed.

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