PRODUCT / PROCESS CHANGE INFORMATION

1. PCI basic data

1.1 Company	STMicroelectronics International N.V
1.2 PCI No.	MDG/20/11881
1.3 Title of PCI	New leader/trailer for micromodules
1.4 Product Category	Advantis, Prisma, ST33, ST31 STPay, CD21
1.5 Issue date	2020-07-22

2. PCI Team

2.1 Contact supplier	
2.1.1 Name	ROBERTSON HEATHER
2.1.2 Phone	+1 8475853058
2.1.3 Email	heather.robertson@st.com
2.2 Change responsibility	
2.2.1 Product Manager	Marie-France FLORENTIN
2.1.2 Marketing Manager	Bruno BATUT
2.1.3 Quality Manager	Mickael DENAIS-ALLICHON

3. Change

3.1 Category	3.2 Type of change	3.3 Manufacturing Location
Materials	New Indirect material part number (same supplier or different supplier): Boxes, trays, carriers, back grinding tape, wafer mounting tape, mold tape, etc..	ST Bouskoura

4. Description of change

	Old	New
4.1 Description	The leader/Trailer tape material for ST banking chips molded modules is now consolidated with existing leader/trailer tapes. Previous supplier / material / length : Linxens / Epoxy Glass / rom 0.5m trailer to 3m leader	New supplier : Tongxi New Material : PET (color : white) New Length : 1.2m max. target
4.2 Anticipated Impact on form,fit, function, quality, reliability or processability?	No impac ton form / Fit and function	

5. Reason / motivation for change

5.1 Motivation	Brittle effect can be seen on current leader/trailer tape. This will be solved with new conditions. Manufacturability will be improved
5.2 Customer Benefit	QUALITY IMPROVEMENT

6. Marking of parts / traceability of change

6.1 Description	not seen on product.

7. Timing / schedule

7.1 Date of qualification results	2019-04-05
7.2 Intended start of delivery	2019-12-20
7.3 Qualification sample available?	Not Applicable

8. Qualification / Validation

8.1 Description			
8.2 Qualification report and qualification results	In progress	**Issue Date**	

9. Attachments (additional documentations)
11881 Public product.pdf 11881 PCI deployment of new trailer tape-1.pdf

10. Affected parts		
10. 1 Current		10.2 New (if applicable)
10.1.1 Customer Part No	10.1.2 Supplier Part No	10.1.2 Supplier Part No
	STM32HSM-V1AE	
	STM32HSM-V1BE	

IMPORTANT NOTICE – PLEASE READ CAREFULLY

Subject to any contractual arrangement in force with you or to any industry standard implemented by us, STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST's terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers' products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2018 STMicroelectronics – All rights reserved

New leader/trailer for micromodules

What is the change?

The leader/Trailer tape material for ST banking chips molded modules is now consolidated with existing leader/trailer tapes.

Previous supplier : Linxens
Previous Material : Epoxy Glass (color : grey)
Previous Length : from 0.5m trailer to 3m leader

New supplier : Tongxi
New Material : PET (color : white)
New Length : 1.2m max. target

Why?

Brittle effect can be seen on current leader/trailer tape. This will be solved with new conditions. Manufacturability will be improved.

When?

The change will occur in April 2019

How will the change be qualified?

The change will be qualified using the standard ST Microelectronics Corporate Procedures for Quality and Reliability, as per qualification plan detailed in Appendix B.

What is the impact of the change?

- **Form of the banking product:** none

- **Fit of the banking product :** none

- **Function of the banking product :** none

The risk assessment for this change is : Low

The impact on indirect material fit is : Likely as color will be changed
The impact on final application is : Unlikely as new conditions offer same ESD level.
The impact on Manufacturing along customer supply chain is : Unlikely as the new condition offer same dimension (width) than current conditions.

How can the change be seen?

- The change cannot be seen on the product.
- The change can be seen at the beginning and end of the reel.

Appendix A- Product Change Information

Product family / Commercial products:	Hardware and SOC Banking products when sold in micro-modules D12 / D16 / D17 / D62 / D68 / D70 / D72 / D75 / D77 / D92 / D95.
Customer(s):	OS Vendors / OEMs
Type of change:	Indirect material change
Reason for the change:	Manufacturability
Description of the change:	Replacement of leader/trailer tape
Forecast date of notification to the customer	W8-2019
Forecast date of Qualification samples availability for customer(s):	Wk51'19
Forecast date for the internal STMicroelectronics change, Qualification Report availability:	W14-2019
Marking to identify the changed product:	N/A
Description of the qualification program:	Standard ST Microelectronics Corporate Procedures for Quality and Reliability (See appendix B)
Manufacturing location:	ST Bouskoura
Estimated date of first shipment:	Wk51' 2019

Appendix B: Qualification Plan:

Qualification plan is the following:

	Item	***Qualification action***	***Step***	***Status and Comments***
1	Leader/Trailer Dimension	Verify width & thickness vs. specification	Incoming Control	
2	Leader /Trailer Mechanical properties	Check tensile strength vs. specification	Incoming Control	
3	Leader /Trailer Electrical properties	Verify ESD vs. specification and current material	Incoming Control	
4	Leader /Trailer compatibility with Splice	Workability (D16 1lot, D12 1lot + 3lots, D17 1lot)	Incoming Control + Yield	
5	Particle/stain transferred to the tape	Verify if there is an increase of particles transferred to tape in contact.	Incoming Control + Yield	

Document Revision History		
Date	Rev.	Description of the Revision
Feb 15th, 2019	1.00	First draft creation

Source Documents & Reference Documents		
Source document Title	**Rev.:**	**Date:**

APPROVAL TABLE			
Signed by	**Name**	**Approval signature.**	**Approval date**
Product Marketing	Lionel Ravel		
Product Eng. Mgr	Gerard Kassapian		
Central Marketing Mgr	Christian Vignes		
Planning Mgr	Alban Fournier		
Quality Mgr	Mickael Denais		

Public Products List

Publict Products are off the shelf products. They are not dedicated to specific customers, they are available through ST Sales team, or Distributors, and visible on ST.com

PCI Title : New leader/trailer for micromodules
PCI Reference : MDG/20/11881

Subject : Public Products List

Dear Customer,

Please find below the Standard Public Products List impacted by the change.

STM32HSM-V1BE	**STM32HSM-V1ML**	**STM32HSM-V1AE**
STM32HSM-V1XL		

IMPORTANT NOTICE – PLEASE READ CAREFULLY

Subject to any contractual arrangement in force with you or to any industry standard implemented by us, STMicroelectronics NV and its subsidiaries (“ST”) reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST’s terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers’ products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2018 STMicroelectronics – All rights reserved