

**PRODUCT / PROCESS CHANGE INFORMATION**

**1. PCI basic data**

<b>1.1 Company</b>		STMicroelectronics International N.V
<b>1.2 PCI No.</b>	APG/15/9380	
<b>1.3 Title of PCI</b>	Replacement of Cover Tape used for Tape and Reel on PSSO Bouskoura	
<b>1.4 Product Category</b>	see list	
<b>1.5 Issue date</b>	2015-09-07	

**2. PCI Team**

<b>2.1 Contact supplier</b>	
<b>2.1.1 Name</b>	ROBERTSON HEATHER
<b>2.1.2 Phone</b>	+1 8475853058
<b>2.1.3 Email</b>	heather.robertson@st.com
<b>2.2 Change responsibility</b>	
<b>2.2.1 Product Manager</b>	Riccardo NICOLOSO
<b>2.1.2 Marketing Manager</b>	Nicola LIPORACE
<b>2.1.3 Quality Manager</b>	Francesco MINERVA

**3. Change**

<b>3.1 Category</b>	<b>3.2 Type of change</b>	<b>3.3 Manufacturing Location</b>
Materials	Any indirect material modifications for shipping products in dimensions, material, composition, orientation...	ST Bosukoura

**4. Description of change**

	<b>Old</b>	<b>New</b>
<b>4.1 Description</b>	CP21 current cover tape used for Tape & Reel packing	CP31 new cover tape used for Tape & Reel packing
<b>4.2 Anticipated Impact on form,fit, function, quality, reliability or processability?</b>	No impacts on Fit and Function of the parts with new cover tape. No impact on Form of the parts, but change is visible on packing.	

**5. Reason / motivation for change**

<b>5.1 Motivation</b>	Better transparency compared to the current cover tape.
<b>5.2 Customer Benefit</b>	LOGISTICS IMPROVEMENT

**6. Marking of parts / traceability of change**

<b>6.1 Description</b>	Datacode
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**7. Timing / schedule**

<b>7.1 Date of qualification results</b>	2015-08-31
<b>7.2 Intended start of delivery</b>	2015-10-04
<b>7.3 Qualification sample available?</b>	Upon Request

**8. Qualification / Validation**

<b>8.1 Description</b>	Qualification.pdf		
<b>8.2 Qualification report and qualification results</b>	Available (see attachment)	<b>Issue Date</b>	2015-09-07

**9. Attachments (additional documentations)**

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
	L4995AJTR	
	L4995JTR	
	L4995RJTR	
	L5150CJTR	
	L5150GJTR	
	L99MC6GJTR	
	L99MC6TR	
	VN5016AJTR-E	
	VN5025AJTR-E	
	VN5050AJTR-E	
	VN5050J-E	
	VN5050JTR-E	
	VN5E025AJTR-E	
	VN5E025MJTR-E	
	VN5E050AJTR-E	
	VN5E050JTR-E	
	VN5E050MJTR-E	
	VN7010AJTR	
	VN7010AJTR-E	
	VN7016AJTR	
	VN7016AJTR-E	
	VN7020AJTR	
	VN7020AJTR-E	
	VN7040AJTR	
	VN7040AJTR-E	
	VN7050AJTR	
	VN7050AJTR-E	
	VN7140AJTR	
	VN7140AJTR-E	
	VND5050AJTR-E	
	VND5050JTR-E	
	VND5160AJTR-E	
	VND5160JTR-E	
	VND5E050JTR-E	
	VND5E160AJTR-E	
	VND5E160JTR-E	
	VND5E160MJTR-E	
	VND5T100AJTR-E	
	VND5T100LAJTR-E	
	VND7020AJTR	
	VND7020AJTR-E	
	VND7030AJTR	
	VND7030AJTR-E	
	VND7040AJTR	
	VND7040AJTR-E	

	VND7050AJ12TR	
	VND7050AJTR	
	VND7050AJTR-E	
	VND7140AJ12TR	
	VND7140AJTR	
	VND7140AJTR-E	
	VNL5030JTR-E	
	VNQ7140AJTR	
	VNQ7140AJTR-E	

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## Public Products List

**PCI Title :** Replacement of Cover Tape used for Tape and Reel on PSSO Bouskoura

**PCI Reference :** APG/15/9380

**PCI Created on :** 31-Aug-2015

**Subject :** Public Products List

Dear Customer,

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

VND5050AJ-E	VND5E160JTR-E	L4995RJ
VND5E160MJTR-E	L9777B	VND5160AJTR-E
VN7010AJTR	VND5E050JTR-E	VNQ500PEPTR-E
VN5050AJTR-E	VNQ7050AJTR-E	VN7040AJTR
VND5T100AJ-E	VN5050J-E	VN5025AJTR-E
VNQ7140AJTR-E	VN5050JTR-E	VNQ5E250AJTR-E
VN5016AJTR-E	L9777B13TR	VN5E025MJ-E
VND5050J-E	VND7020AJTR	VND5T100LAJ-E
VN7020AJTR	VNL5030J-E	VNQ5E250AJ-E
L99MC6GJTR	VND5E160AJTR-E	VN5E050AJTR-E
L9777C13TR	VND7140AJTR	VND5T100LAJTR-E
VN5050JJTR-E	VND7050AJ12TR	VND5160J-E
L9777A	VN5E050J-E	L99PM60JTR
VN5E050MJTR-E	VND5E160MJ-E	VND5E050ACJTR-E
VND5160JTR-E	L99PM60J	VN5E025AJTR-E
L5300GJTR	L99MC6GJ	VND5E050MCJTR-E
VN7140AJTR	VNQ500PEP-E	VND810PEP-E
VN5016AJ-E	VND5T100AJTR-E	VNQ7050AJ-E
VN5E050MJ-E	VND5050AJTR-E	L5150GJ
VND5050JTR-E	VND7050AJTR	VN5050JJ-E
VN5E025AJ-E	VND5E050J-E	VN5E050JTR-E
L9777A13TR	VNQ7140AJ-E	L5150GJTR
VN5025AJ-E	VN5E050AJ-E	VND5E160J-E
VND810PEPTR-E	VND7030AJTR	VND7040AJTR
VND5160AJ-E	VND5E160AJ-E	L5150CJTR
VN5050AJ-E	L4995RJTR	VN5E025MJTR-E
VND7140AJ12TR	VNL5030JTR-E	L5150CJ
VN7016AJTR	L5300GJ	VN7050AJTR
L9777C	RL5150CJTR	



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## Replacement of Cover Tape used for Tape and Reel on PSSO Bouskoura

### WHAT

Replacement of existing cover tape (Reference: CP21) used for tape & reel packing by a new one supplied by SUMITOMO (Reference: CP31 Sumitomo reference CSL-Z7302) for PSSO packages.

Sumitomo cover tape CP31 is already qualified and used since 2010 on PSO, PSSO, and BGA package families, and on TQFP and HIQUAD packages since 2011 in Muar.

### WHY

The cover tape CP31 (CSL-Z7302 supplied by SUMITOMO) has a better tensile strength, and allows a better and simplified visual inspection.

	CPAK CP21 (current)	CPAK CP31 (New)	Comment
Tensile strength	4,5 – 7 KG/mm <sup>2</sup>	>= 6,5 KG/mm <sup>2</sup>	CP 31 Better tensile strength
Transparency	Milky : 75% 	Transparent > 85% 	CP31 with better visibility
Elongation	>= 80%	>= 80%	
Thickness	0,040 0,06	0,055 0,069	
Base Material	PS/ 3 layers	PS / 3 layers	Idem polyester

### HOW

See attached Qualification of CP31 (CSL-Z7302 Sumitomo) cover tape .

### IMPACT OF THE CHANGE:

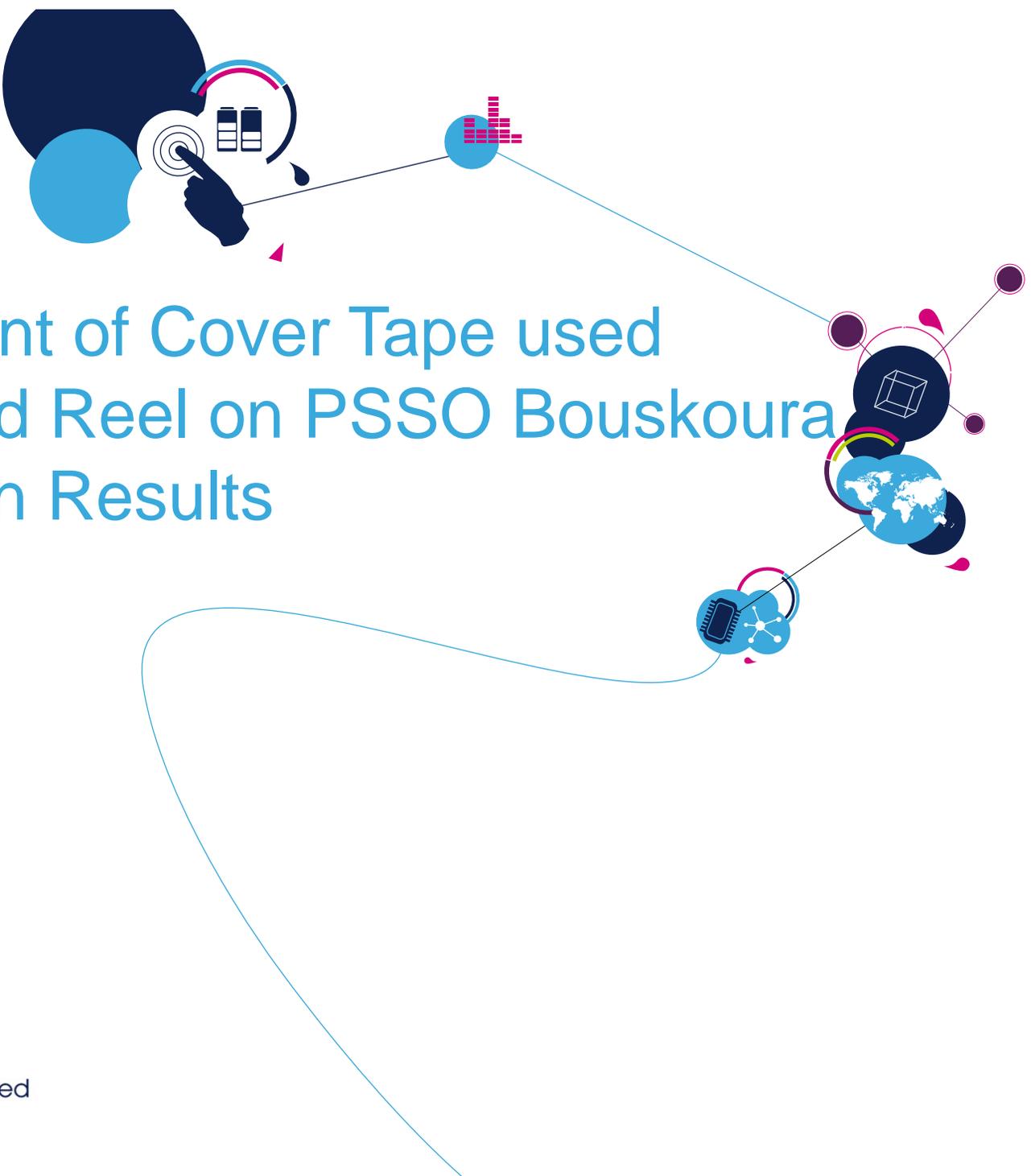
No impacts on **Fit and Function** of the parts with new cover tape.  
No impact on **Form** of the parts, but change is visible on packing.

### How will this change be identified:

Current cover tape CP21 is "milky".  
The new cover tape CP31 is semi-transparent.

### WHEN

Change will be implement from October 2015.



# Replacement of Cover Tape used for Tape and Reel on PSSO Bouskoura Qualification Results

August 2015

# CP31 vs CP21 Cover tape Comparison

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	CPAK CP21 (current)	CPAK CP31 (New)	Comment
Tensile strength	4,5 – 7 KG/mm <sup>2</sup>	>= 6,5 KG/mm <sup>2</sup>	CP 31 Better tensile strength
Transparency	Milky : 75% 	Transparent > 85% 	CP31 with better visibility
Elongation	>= 80%	>= 80%	
Thickness	0,040 - 0,06	0,055 - 0,069	
Base Material	PS/ 3 layers	PS / 3 layers	Idem polyester

# Peel Test

	CPAK CP21 (current)	CPAK CP31 (New)
Temperature	190° C	190° C
Pressure	2 bar	2 bar
Peel Test results (Spec. limit: 20 - 80 gr)	Min: 23.25      Range: 53.15 Max: 76.70      Std Dev. : 3.3	Min: 33.48      Range: 50.42 Max: 59.77      Std Dev. : 5.8
Results	Pass	Pass

Peeling results : Passed

# CP31 Workability Test

Process	Machine	Objective	Samples	defect criteria	Result
Finishing	NX32 -	Pick & Place the unit on the carrier Sealing check quality Peel test repeatability	3 reels of 2500 devices	<ul style="list-style-type: none"> <li>Misplace unit</li> <li>Poor sealing</li> <li>Tape jammed</li> </ul>	Pass



Process	Procedure	Samples	Defect criteria	Result
Bend test	Bend the both edge of carrier tape with units	100 units packed in carrier tape	<ul style="list-style-type: none"> <li>Misplace unit</li> <li>Breackage of cover tape</li> </ul>	Pass
Twist test	Take carrier tape with unit ,hold one side and twist the opposite side around 360 degree	100 units packed in carrier tape	<ul style="list-style-type: none"> <li>Breackage of cover tape</li> </ul>	Pass
Tearing test	Fast peeling off cover tape by using hand	10 samples ( 120 MM long)	<ul style="list-style-type: none"> <li>Torn cover tape</li> <li>No residue at sealing line after peel off</li> </ul>	Pass
Marking reading	Marking reading trough cover tape by using using lamp loop	3 reels ( 2500 devices /reel)	No visible marking character	pass
Sealing quality	Inspect the cover tape sealing quality	3 reels ( 2500 devices /reel)	<ul style="list-style-type: none"> <li>Cover tape scratches</li> <li>Uncomplete sealing</li> <li>Over sealing</li> <li>Cover tape misplacement</li> </ul>	Pass



Workability results : Passed