

PRODUCT / PROCESS CHANGE NOTIFICATION

1. PCN basic data

1.1 Company		STMicroelectronics International N.V
1.2 PCN No.	ADG/21/13157	
1.3 Title of PCN	HI-QUAD 92 14x20 SLUG UP: New Marking Layout	
1.4 Product Category	see list	
1.5 Issue date	2021-12-15	

2. PCN 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	Lorenzo MOIOLI, Giovanni FOLETTTO
2.1.2 Marketing Manager	Valeria SCARCELLI, Alberto DA DALT
2.1.3 Quality Manager	Marcello Donato MENCHISE

3. Change

3.1 Category	3.2 Type of change	3.3 Manufacturing Location
Methods	Traceability (marking content, company logo, etc)	ST Muar - Malaysia

4. Description of change

	Old	New
4.1 Description	Marking on metallic slug	Marking on resin frame surrounding the slug
4.2 Anticipated Impact on form, fit, function, quality, reliability or processability?	No Impact	

5. Reason / motivation for change

5.1 Motivation	In the new position marking is more protected and less prone to possible scratches, maintaining a suitable level of readability.
5.2 Customer Benefit	QUALITY IMPROVEMENT

6. Marking of parts / traceability of change

6.1 Description	Date code and new product marking
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7. Timing / schedule

7.1 Date of qualification results	2021-12-06
7.2 Intended start of delivery	2022-03-31
7.3 Qualification sample available?	Upon Request

8. Qualification / Validation

8.1 Description	13157 Validation.pdf		
8.2 Qualification report and qualification results	Available (see attachment)	Issue Date	2021-12-15

9. Attachments (additional documentations)

13157 Public product.pdf 13157 Validation.pdf 13157 Details.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
	FDA4100LV	

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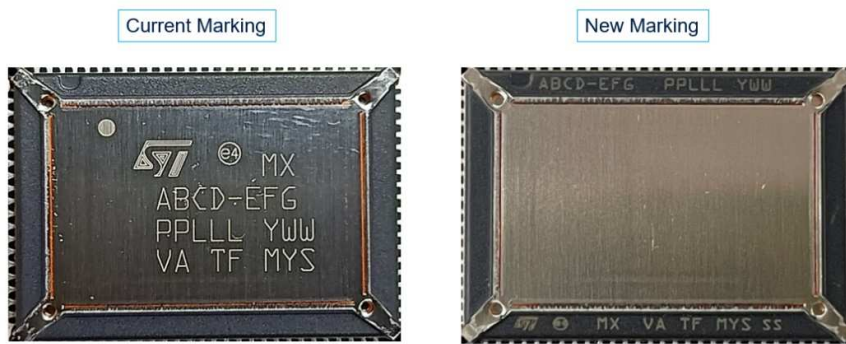
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PRODUCT/PROCESS CHANGE NOTIFICATION

TITLE	HI-QUAD 92 14x20 SLUG UP: New Marking Layout
IMPACTED PRODUCTS	ST lines assembled in HI-QUAD 92 14x20 SLUG UP package; see attached products list.
MANUFACTURING STEP	Assembly – Marking.
INVOLVED PLANT	ST Muar Plant (Malaysia) .
CHANGE REASON	Quality improvement. Products are currently laser marked on package slug, easily subject to scratches that can affect marking readability.
CHANGE DESCRIPTION	Marking re-layout (position) from current metallic slug to resin frame surrounding the slug itself, as shown in the following picture:  In the new position marking is more protected and less prone to possible scratches, maintaining a suitable level of readability.
TRACEABILITY	Product new marking and trace code.
VALIDATION	Validation has been internally performed, ensuring new marking is correctly readable by standard imaging tools.
CURRENT PRODUCTS	New marking will replace the current one.



Public Products List

Public 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

PCN Title : HI-QUAD 92 14x20 SLUG UP: New Marking Layout

PCN Reference : ADG/21/13157

Subject : Public Products List

Dear Customer,

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

FDA4100LV	FDA4100LV-T	
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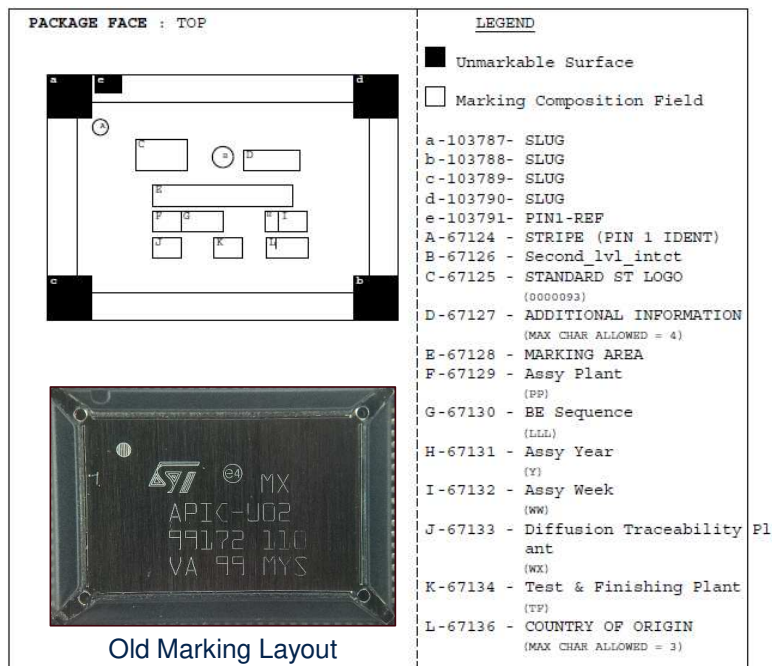


life.augmented

Title : HQ92L_SLU_New Marking Layout Qualification

Marking Layout - Comparison

Before : Marking on slug



After : Marking on package



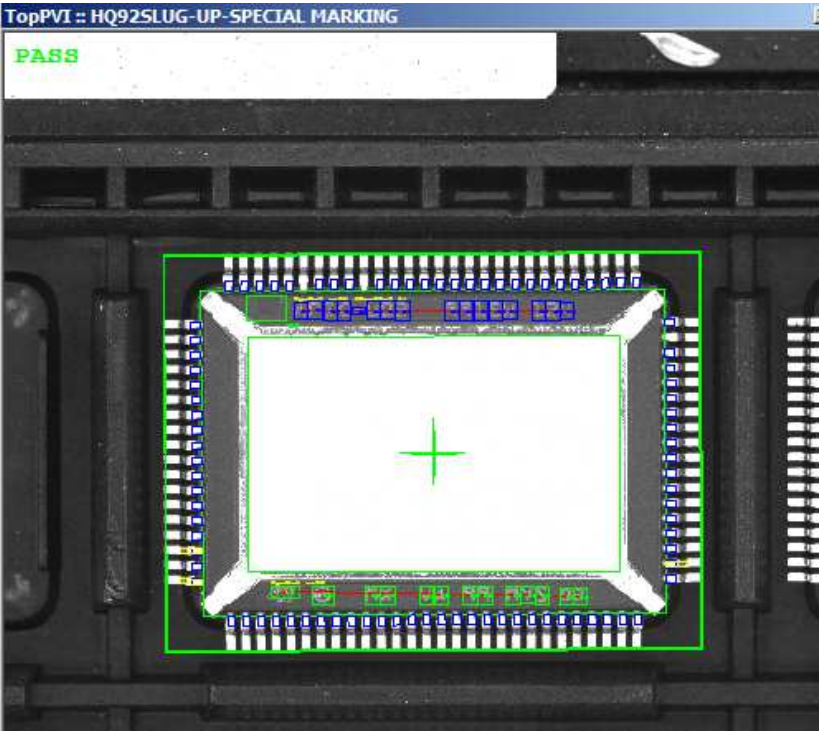
Qualification Approach

- 4 assembly lots (2 per product)
- 18 units per lot submitted to marking physical measurements
 - Marking offset
 - Marking legibility
 - Marking depth

Workability Result

Unit	Marking on package		
	Offset Marking	Illegible Mark	Marking Depth
	Spec: N/A	Spec: N/A	Spec: 6-75um
1	0	0	18
2	0	0	20
3	0	0	23
4	0	0	21
5	0	0	25
6	0	0	20
7	0	0	23
8	0	0	19
9	0	0	20
10	0	0	20
11	0	0	18
12	0	0	23
13	0	0	18
14	0	0	20
15	0	0	18
16	0	0	22
17	0	0	25
18	0	0	20

Min: 18
Max: 25
Average: 20.72
Cpk: 1.76



100% scanning result:

Device: M9T)*UAI5BDP

Lot# 1: 991380VW05

Quantity: 2685 pcs

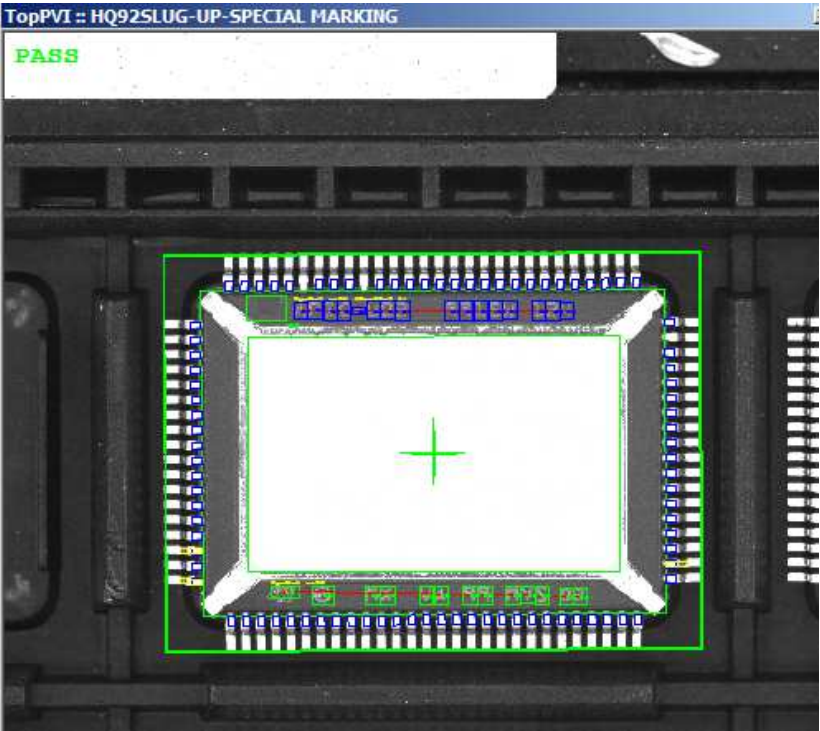


Sample Marking

Workability Result

Unit	Marking on package		
	Offset Marking	Illegible Mark	Marking Depth
	Spec: N/A	Spec: N/A	Spec: 6-75um
1	0	0	19
2	0	0	22
3	0	0	23
4	0	0	22
5	0	0	22
6	0	0	20
7	0	0	23
8	0	0	19
9	0	0	20
10	0	0	20
11	0	0	19
12	0	0	27
13	0	0	18
14	0	0	20
15	0	0	18
16	0	0	22
17	0	0	21
18	0	0	20

Min: 18
Max: 27
Average: 20.83
Cpk: 1.81



100% scanning result:

Device: M9T)*UAI5BDP

Lot# 2: 991380VW06

Quantity: 2756 pcs

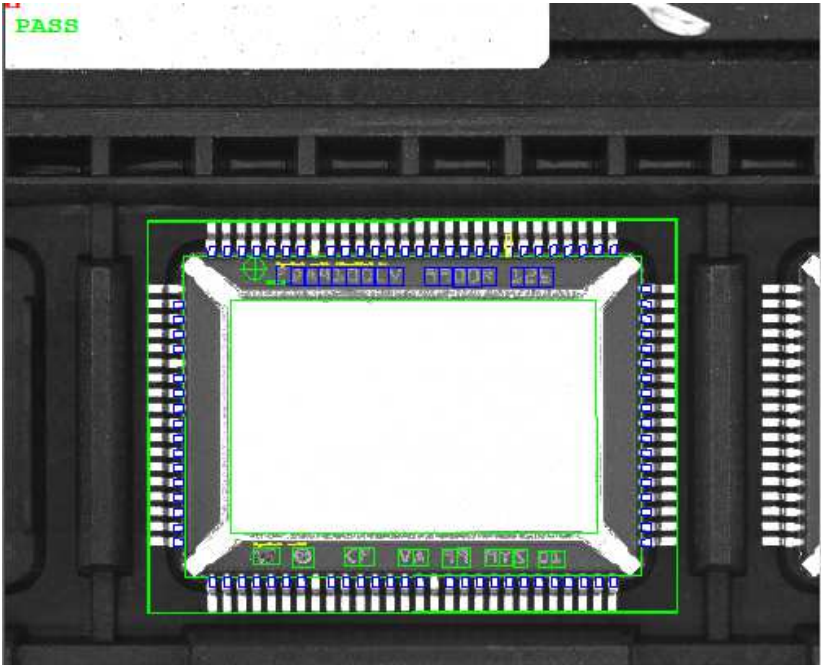


Sample Marking

Workability Result

Unit	Marking on package		
	Offset Marking	Illegible Mark	Marking Depth
	Spec: N/A	Spec: N/A	Spec: 6-75um
1	0	0	15
2	0	0	24
3	0	0	22
4	0	0	19
5	0	0	19
6	0	0	25
7	0	0	17
8	0	0	19
9	0	0	17
10	0	0	18
11	0	0	19
12	0	0	17
13	0	0	21
14	0	0	21
15	0	0	20
16	0	0	20
17	0	0	20
18	0	0	21

Min: 15.0
Max: 25.0
Average: 19.6
Cpk: 1.79



100% scanning result:

Device: M9T)*UJ13CFA
Lot# 1: 9914021W02
Quantity: 1509 pcs

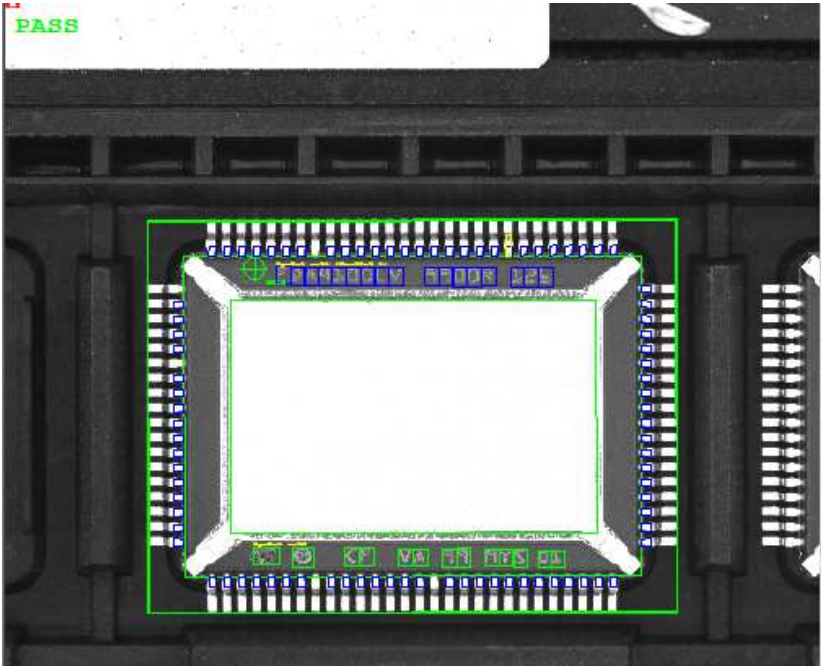


Sample Marking

Workability Result

Unit	Marking on package		
	Offset Marking	Illegible Mark	Marking Depth
	Spec: N/A	Spec: N/A	Spec: 6-75um
1	0	0	23
2	0	0	24
3	0	0	22
4	0	0	19
5	0	0	18
6	0	0	18
7	0	0	17
8	0	0	19
9	0	0	17
10	0	0	18
11	0	0	19
12	0	0	17
13	0	0	21
14	0	0	21
15	0	0	20
16	0	0	20
17	0	0	22
18	0	0	22

Min: 17.2
Max: 24.4
Average: 19.6
Cpk: 2.11



100% scanning result:

Device: M9T)*UJ13CFA

Lot# 2: 9914021W01

Quantity: 2748 pcs



Sample Marking

ADG_HQ92L_SLU_New Marking Layout Qualification

Result:

1. No illegible marking found from qualification lot after screening.
2. No broken character found from qualification lot after screening.
3. Laser depth Cpk more than 1.67.