Product Change Request

Product: Dragster CMOS Line Scanner Sensors

Change Number: 01

Title: Black Mask EK520 to SKT1000 change

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1 Information

Product ID: *Dragster CMOS Line Scanner Sensors*

Date of request: *21 of August 2017*

Category: Cat 1 (Major) ☒ Cat 2 (Minor) ☐

2 Description of change:

2.1 New Black Mask Material

To cover EOL (End Of Life) situation of the current black mask material EK520 at our current coating supplier, ams decided to qualify a new Black Mask material SKT1000.

Type of change:

☒ Material change

☐ Process change

☐ Method change

☐ Other: New Cable Supplier

3 Motivation for change

☐ Yield enhancement

☐ Continuous improvement

☐ Quality / reliability

☐ Process stability

☐ Cost reduction

☐ Customer request

☒ other: EOL of current material

4 Risk assessment / Evaluation of Impact

4.1 Cost of change

There will be no impact.

4.2 Impact on product pricing

There will be no impact.

4.3 Impact on materials

The material used for the black mask will change from the EK520 to SKT1000.

4.4 Impact on schedule

There will be no impact.

4.5 Impact on design

There will be no impact.

4.6 Impact on product performance

There will be no impact.

4.7 Impact on yield or process stability

There will be no impact.

4.8 Impact on supply chain

There will be no impact.

4.9 Impact on inventory

There will be no impact.

4.10 Impact on tooling and equipment

There will be no impact.

4.11 Impact on reliability/qualification status

There will be no impact.

4.12 Impact on packing & shipment

There will be no impact.

4.13 Impact on other customers/existing applications

There will be no impact.

4.14 Implementation of Change

4.15 Implementation date and schedule

The new black mask material will be introduced in the SC as soon as it is qualified. It's schedule for the qualification to be finish in CW45.

4.16 Verification strategy

Not applicable.

4.17 Traceability

The traceability of new black mask material will be assure by tracking the wafer batch.

4.18 Marking

Not applicable.

4.19 Documents to be updated

Not applicable.

5 Verification of implementation

Covered by the traceability.

6 Comments

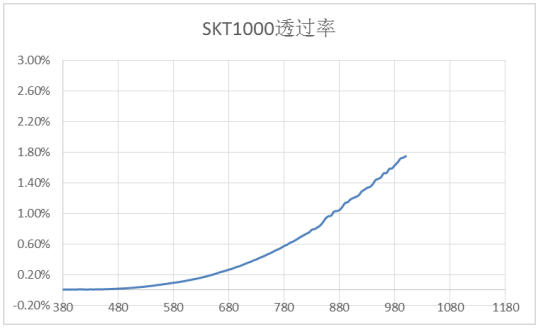
Not applicable.

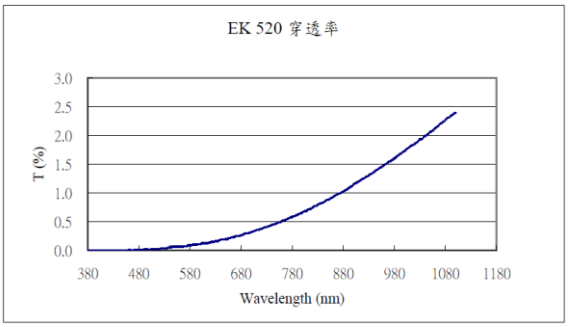
7 Attachments

7.1 Black Mask Coating Supplier internal qualification

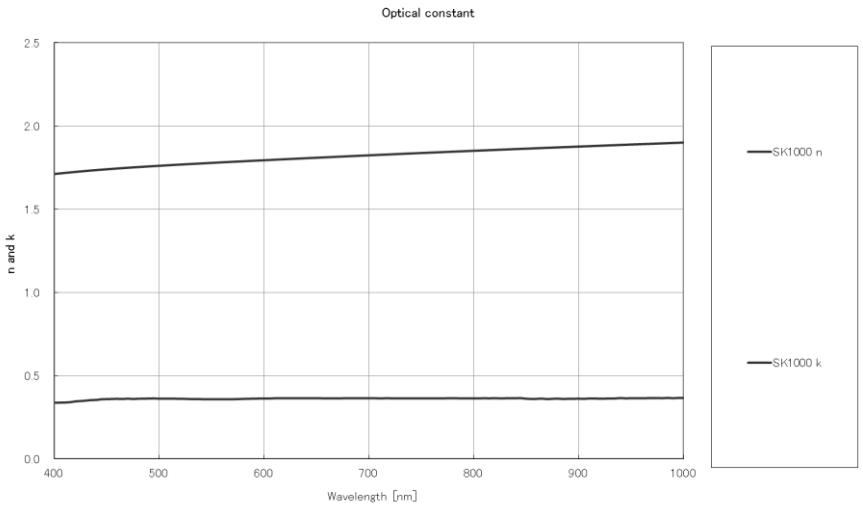
In order to qualify the new black mask, the supplier has presented some initial results. Initial supplier results are considered PASS.

7.1.1 Transmittance, NK:





SKT1000 transmittance curve according to the wavelength is approximately the same as EK520.

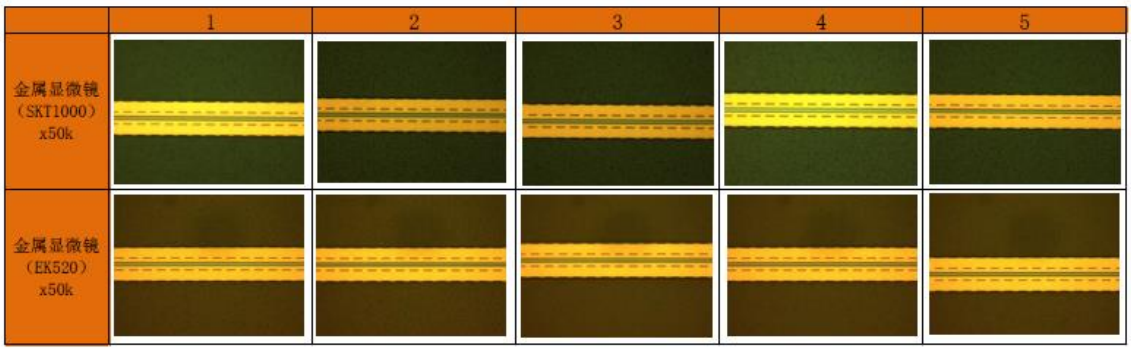


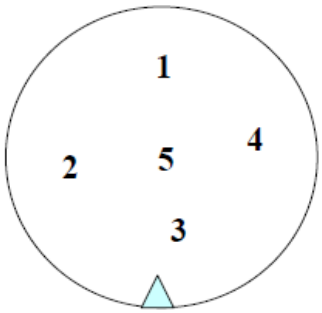
N, K from 400nm to 1000nm of SKT1000.

7.1.2 Contamination inspection

Initial data provided by supplier is considered PASS.

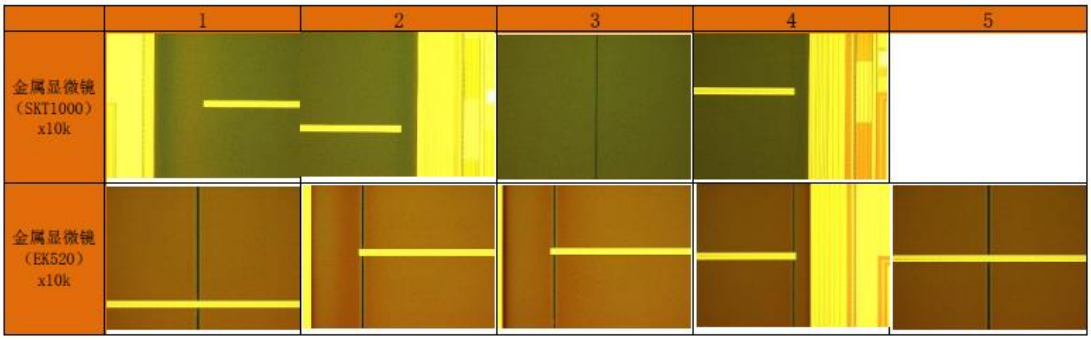
7.1.2.1 Sensitive area

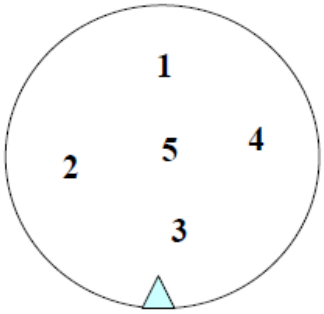




No imperfections, contamination, particles or any abnormalities were found in the sensitive are (pixel area)

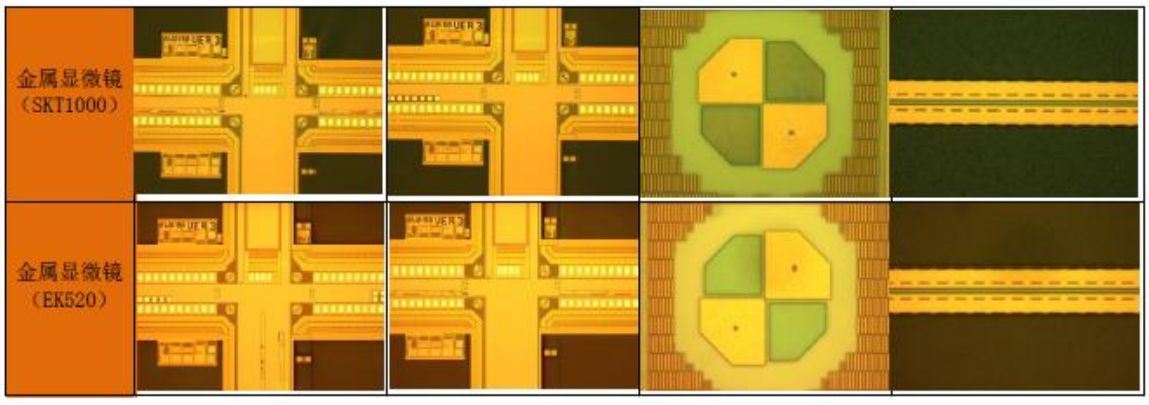
7.1.2.2 Peeling of stitching area





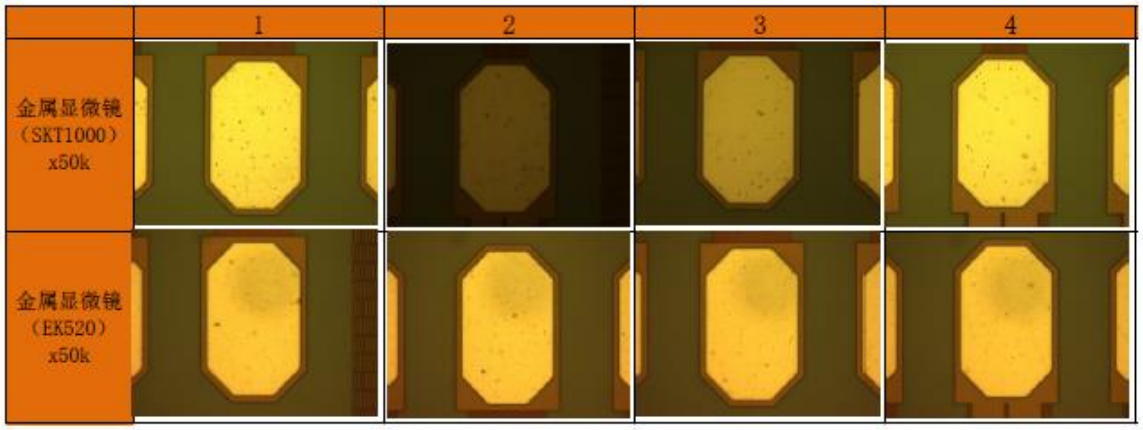
No imperfections, peeling effects, contamination or abnormality were found in the stitching area.

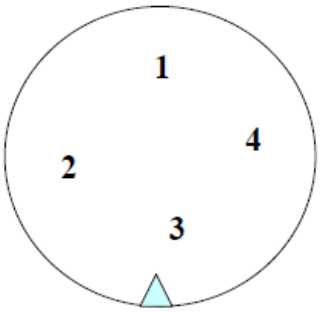
7.1.2.3 Boundary flatness



Aligment of the masks as well as it's flatness is considered to be ok.

7.1.2.4 Pads inspection





No contaminiation was found over the bond pads

7.2 Black Mask Coating ams qualification

ams is currently doing an internal qualification. Status and results are available on request.

8 Approvals

CMOSIS:

Dept	Name	Date	Signature
Product Engineering			
~~Sales/Marketing~~/Product Management	FÁBIO GASPAR	04.10.17	
Operations/~~Planning~~	Mónica Dinis	04.10.17	
Project Management			
Quality		4.10.17	
Assembly Engineering		04.10.17	

If no written objection by customer is received until Oct. 31, 2017, this PCN is considered as accepted.