



## Product Change Notice

Doc. No.: RF-008-0002  
Revision: E

**PCN-200917-05**

**C19\_070\_8 inch BSI products change from laser anneal process  
to High-K process \_TSMC  
(OV6946/OVM6946)**

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| <b>Prepared By</b>               | <b>Approval</b>  |
|----------------------------------|--|
| Chong Hone, Sr. Quality Engineer | Cooper Wu, COO<br>Zille Hasnain, Sr. VP of Quality and Reliability<br>John Li, Sr. VP of System Technologies<br>Michael Wu, Sr. VP of Global Sales & Marketing |

## Product Change Notice

|                           |   |                 |                              |                       |                |
|---------------------------|---|-----------------|------------------------------|-----------------------|----------------|
| <b>PCN Number</b>         | 200917-05   | <b>PCN Date</b> | Jan-31, 2021                 | <b>Effective Date</b> | April-31, 2021 |
| <b>PCN Revision</b>       | 0   |                 |                              |                       |                |
| <b>Title</b>              | TSMC 8 inch BSI products change from laser anneal process to High-K process |                 |                              |                       |                |
| <b>Customer Contact</b>   | OV06946, OVM6946 customers  |                 |                              |                       |                |
| <b>Proposed Ship Date</b> | TBD   |                 | <b>Sample Available date</b> | available             |                |

| <b>PCN Details</b>  |                                   |
|---|-----------------------------------|
| <b>Description of Change</b>  |                                   |
| <ul style="list-style-type: none"> <li>- TSMC 8 inch BSI products to change from Laser anneal process to High-K process.</li> <li>- TSMC will phase out 8 inch laser anneal tool due to tool vendor end of service.</li> <li>- New part# with High-K               <ul style="list-style-type: none"> <li>OVM6946-RAJA → OVM6946-RAJA-1B (with High-K)</li> <li>OVM6946-RAJH → OVM6946-RAJH-1B (with High-K)</li> <li>OVM6946-RAJH-R1 → OVM6946-RAJH-1C (with High-K)</li> <li>OVM6946-RANA → OVM6946-RANA-1B (with High-K)</li> <li>OV06946-xxxx-xx → OV06946-xxxx-1D (with High-K)</li> </ul> </li> </ul> |                                   |
| <b>Reason for Change</b>  |                                   |
| Laser tool phase out at TSMC  |                                   |
| <b>Product Affected</b>   | OV06946-xxxx-xx; OVM6946-xxxx-xx; |
| <b>Addition Information</b>   |                                   |
| 8 inch BSI products from Laser to High-K_Summary (PCN)  |                                   |

Notes: Customer should acknowledge receipt of PCN within 30 days. Lack of acknowledgement within 30 days constitutes change acceptance.

# Laser anneal to High-K process change\_Summary OV6946\_OVM6946

OVT

January 31, 2021

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**Description:**

- TSMC 8 inch BSI products to change from Laser anneal process to High-K process.
- TSMC will phase out 8 inch laser anneal tool due to tool vendor end of service.
- New part# with High-K

OVM6946-RAJA → OVM6946-RAJA-1B (with High-K)

OVM6946-RAJH → OVM6946-RAJH-1B (with High-K)

OVM6946-RAJH-R1 → OVM6946-RAJH-1C (with High-K)

OVM6946-RANA → OVM6946-RANA-1B (with High-K)

OV06946-xxxx-xx → OV06946-xxxx-1D (with High-K)

**Quality Plan:**

- Reliability Qualification. (completed by Feb, 2021)

**Product Affected:**

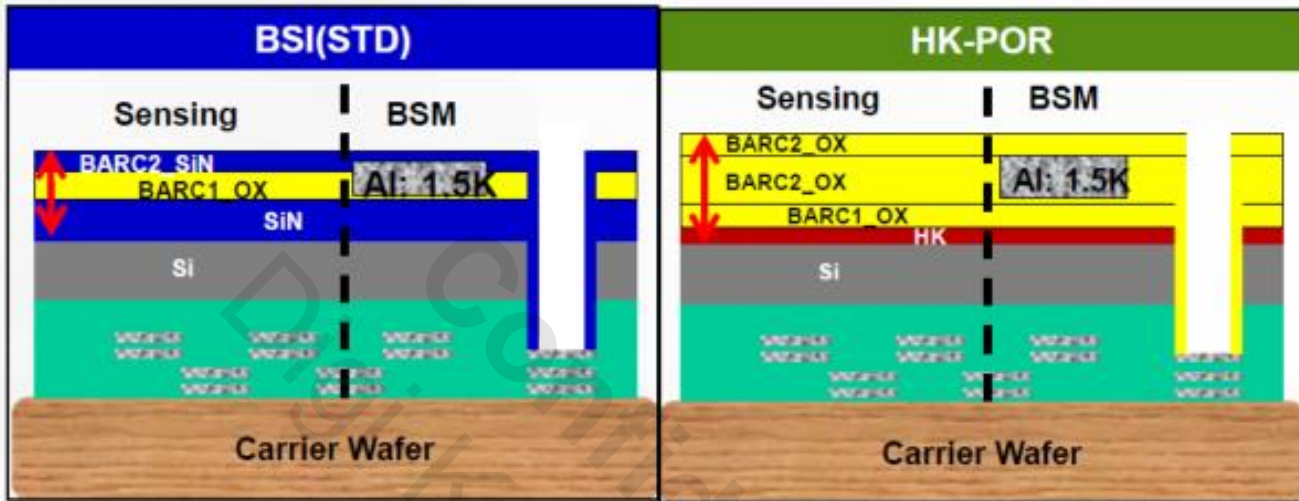
- OVM6946-xxxx-xx
- OV06946-xxxx-xx

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## What is changing?

- TSMC 8 inch BSI products to change from 'Laser anneal' process to 'High-K' process.
- TSMC will phase out 8" inch laser anneal tool due to tool vendor end of service.

### Process change details



## Performance Summary

### High-K over Laser anneal process (see page below for data)

- Better White Pixel performance
- Color Ratio and Color Shading are comparable
- Image mean values were shifted

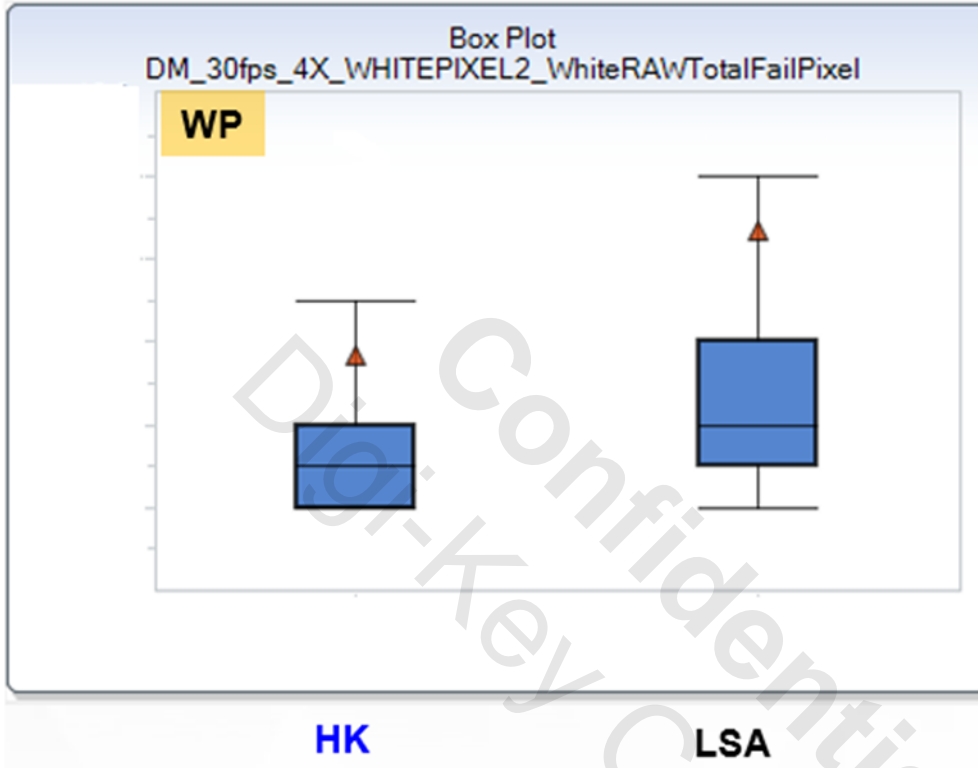
## Summary

- Customers can work with FAE if need to fine tune the ISP
- Customer high-K material samples will be available on request

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# WP

- WP of High-K material are better than the laser anneal process.



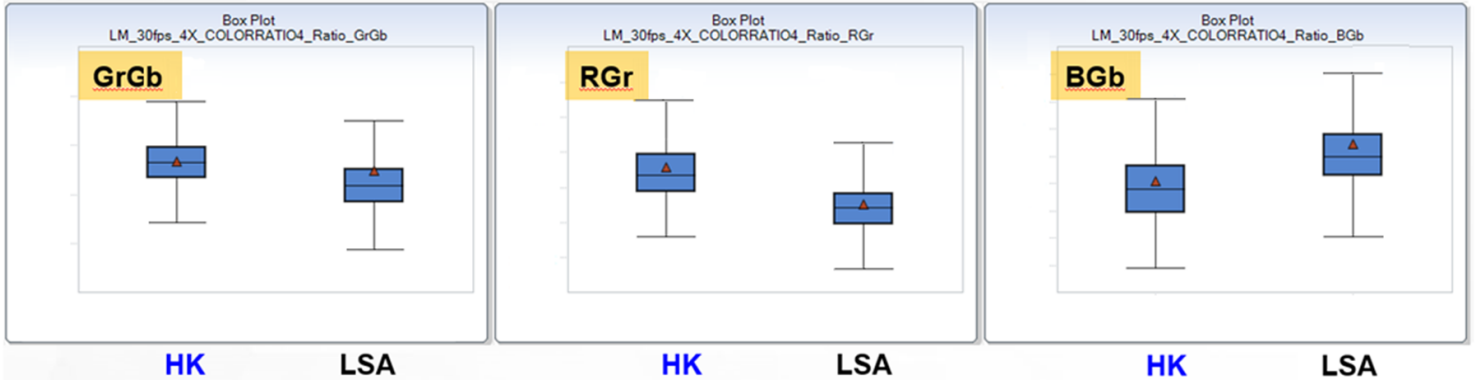
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# Color Ratio

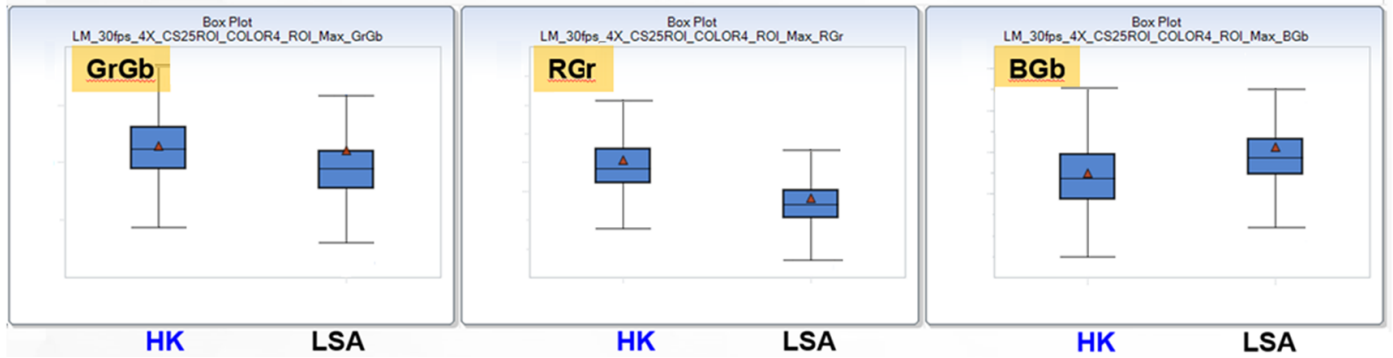
- Color ratio of high-K material are comparable with Laser anneal process.



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# Color Shading: CS25ROI

> Color shading of high-K material are comparable with Laser anneal process.



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