

1 Test of a micro-display at wafer level.

2 Topology of a micro-mirror array (WLI data).

TEST AND CHARACTERIZATION OF MEMS/MOEMS

Fraunhofer Institute for Photonic Microsystems IPMS

Maria-Reiche-Str. 2
01109 Dresden

Contact

Dr. Michael Scholles
Phone +49 351 8823-201
michael.scholles@ipms.fraunhofer.de

Volker Bock
Phone +49 351 8823-251
volker.bock@ipms.fraunhofer.de

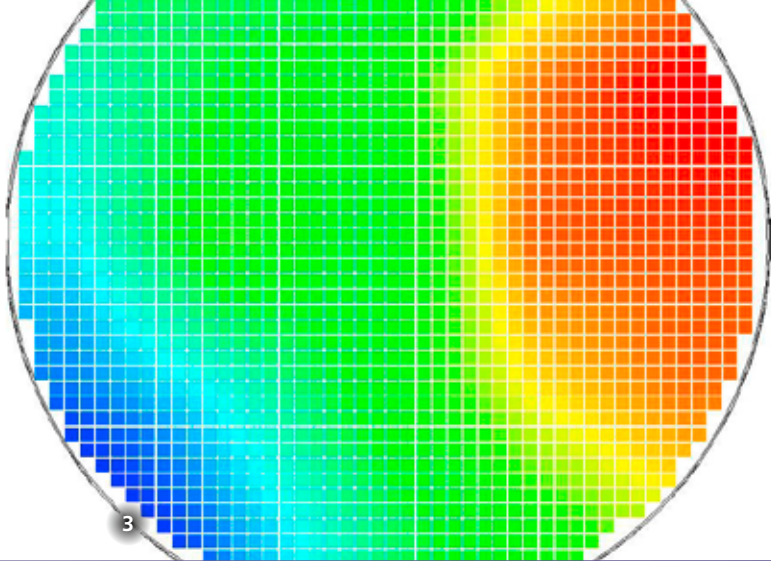
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At Fraunhofer IPMS Dresden innovative, intelligent micro-systems (MEMS/MOEMS) are researched, developed and manufactured. MEMS/MOEMS are micro-mechanical optical systems which combine and unite sensors and actors, as well as digital and analogue circuit components into one. The combination of electrical and non-electrical properties in these systems present a challenge to Test and Characterization. Alongside traditional electrical test procedures, non-electrical tests, optical measurement and stimulation processes in particular are also utilized. The tests are all conducted under class 10 cleanroom conditions. Planning, test program development and testing are carried out in close coordination with our clients. The integration of special instruments, such as laser vibrometers, spectrometers, inter-

ferometers or spectrophotometers, makes a combined electrical and mechanical/optical characterization of these microsystems possible. The electrical control is carried out with mixed-signal test systems, which in turn offer convenient program creation, a large degree of flexibility and high test coverage.

Our test solutions are usually created for a particular project during the product development stage and, upon customer request, right down to the start of series production.

In order to support the needs of small and medium sized enterprises, we also offer Test Development and Test as separate services for small and medium lot sizes.



Best Practice Projects:

- Calibration of temperature sensors at wafer level
- Interim test of micro-displays at wafer level
- Test and Characterization of scanning mirrors
- Final test of sawn wafers for optical sensors
- Final test of pH sensors

Basic Equipment (extract)

- Mixed signal tester Advantest Falcon M3670/ST-M3650
- Electro-optical test system PA300, LMK98-4/USB4000
- Automatic optical inspection system PA200
- Sensor/actor test system PA200, laser stimuli
- Semiconductor characterization system K4200

3 *Thermographic presentation of a wafer with RFID temperature sensors yet to be calibrated.*

4 *Electro-optical test system.*