Chroma 7935 wafer inspection system is an automatic inspection system for after-dicing wafer chip. The appearance defects of wafer chip are clearly conspicuous by using advanced illumination technology. Illumination and camera acquisition mode can be adjusted for various wafer chip, like LED, CMOS image sensor and laser diode.

Applied with high speed camera and inspection algorithms, the 7935 can inspect a 2” wafer in 2 minutes for specific defect items; the throughput is about 15 msec/chip. The 7935 also provides auto focus and warpage compensation function to overcome wafer warpage and chuck leveling issue. There are three magnification objective lens for selection by corresponding chip size or defect size. The minimum resolution of the system is 0.7um that has capability to detect 2 um defect.

**System Function**

After the tape expansion process, the arrangement of dies on wafer may be formed an irregular alignment. the 7935 also offers software alignment function to adjust wafer alignment angle for scan. In addition, the 7935 owns a friendly user interface to reduce user’s learning time. All of inspection information like mapping map, defect region, inspection results is visualized for easy reading.

**Defect Analysis**

Inspection result raw datas are recorded not only pass/fail information but also bin data. This is easily to analysis an optimal parameter that achieves the balance of overkill and underkill. The data also helps to monitor the defect trend caused by the production process, and feedback to production unit in advance.

In conclusion, Chroma 7935 is an ideal cost and performance selection for wafer chip inspection process.

**KEY FEATURES**

- Maximum 8 inch wafer handling capability (10 inch inspection area)
- Unique detection algorithm can be replaced or added for different customer or model
- No precise wafer loading is needed because of auto alignment function
- Edge finding to test various wafer shapes
- Defect criteria editor for versatile pass/fail criteria setting
- Chip Optical Character Recognition > 98%
- Combine AOI and upstream machine data and upload a final mapping file for downstream machine
- Editable inspection report for defect analysis
- Suitable for LED, laser diode, CIS, and other wafer chip
**APPLICATIONS**

### Application for Laser Diode
- Photosensitive Region Defect
- Bond Pad Defect
- Passivation Film Defect

### Application for LED Chip
- Pad Defect
- Pad Residue
- ITO Peeling
- Finger Broken

### Application for CIS Chip
- Ball Missing
- Lead Short
- Ball Chipping
- Lead Open
- Ball Shift
- Lead Notch

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Model</th>
<th>7935</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suitable Chip and Package Type</td>
<td></td>
</tr>
<tr>
<td>Applicable Ring</td>
<td>Grip ring holder or wafer holder</td>
</tr>
<tr>
<td>Inspection Area</td>
<td>10”, suitable for 6” expanding wafer and 8” sawing wafer</td>
</tr>
<tr>
<td>Chip Size</td>
<td>125um x 125um ~ 1.2mm x 1.2mm</td>
</tr>
<tr>
<td>Chip Height</td>
<td>10um ~ 1.5mm</td>
</tr>
<tr>
<td>Chip Type</td>
<td>LED, laser diode, CIS and other wafer chip</td>
</tr>
</tbody>
</table>

### Inspection
- Camera
  5M color camera
- Light Source
  LED co-axis lighting, ring lighting, back lighting
- Magnification
  Multiple magnifications for selection, 2X, 5X and 10X
- Throughput
  2 minutes for 2” wafer at 2 lighting modes
- Algorithm
  - Basic algorithm: pad defect, mesa defect, chipping defect, emitting area defect
  - Advance algorithm: finger defect, epitaxy defect
- External Interface
  Provide external algorithm interface to replace or add new inspection algorithm

### System
- Loading/Unloading
  Auto cassette x 2
- Warpage Compensation
  Software auto focus and mechanical focus supporting to overcome wafer warpage
- MTBF
  > 500 hours
- Computer/OS
  1 set / Windows

### Software Function
- Monitor
  Real-time wafer map display
- Image Storage
  All/defect image saving selectable
- Report
  Including chip position, defect type, inspection results
- Cassette Selection
  Programmable cassette selection and scheduling

### Facility Requirement
- Dimension (WxDxH)
  1300 mm x 900 mm x 1600 mm
- Weight
  800 kg
- Power
  AC 220V ± 10%, 50/60 Hz, 1Ø, 2KW
- Compressed Air
  0.6 MPa

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**SOFTWARE INTERFACE**

- Detail defect raw data for analysis
- Flexible editor for combining with upstream tester bin data

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**ORDERING INFORMATION**

7935 : Wafer Inspection System