

# VCMS140I SOLUTION

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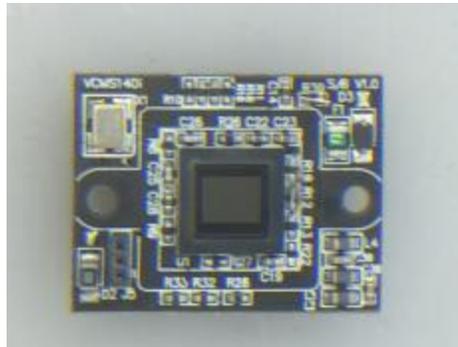


# Mechanical Differences of the Camera

- Potting material



- PCB size & layout



- Same electrical design (schematic) as other cameras

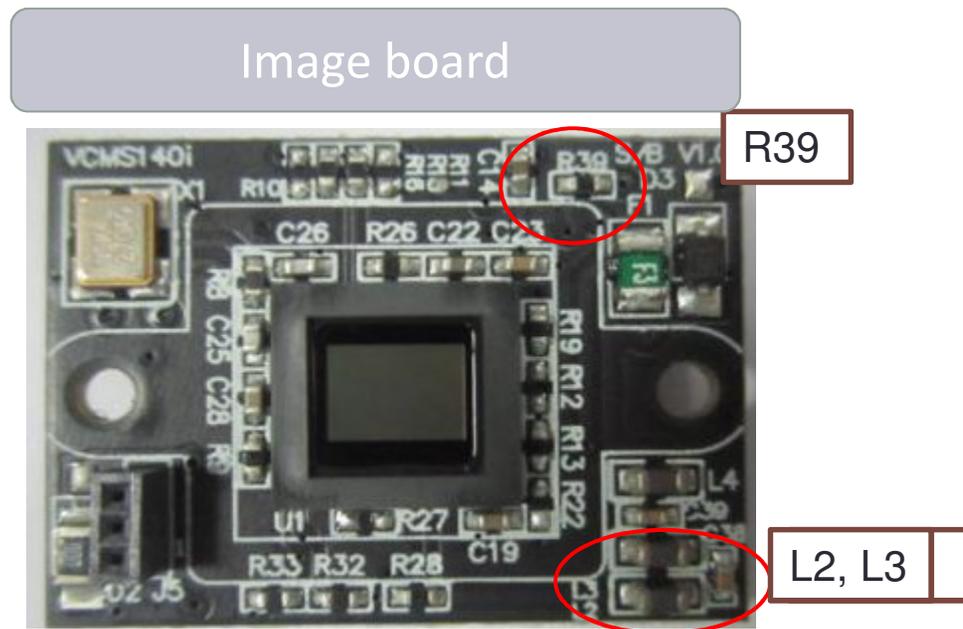
# Root Cause Analysis – Potting Material

- Improper mixing container contaminated potting material
- Remaining potting material from production was saved and used on next order
- Potting material improperly mixed (inconsistent)
- Potting material was not stored in a temperature stable environment

All of these causes resulted in chemical reaction with certain electrical components.

## Additional Risk Factors – Physical Component Damage

- Due to close proximity of certain components to the edge of the PCB and/or sensor module, some components could be marginally damaged during assembly.



## Additional Risk Factors – Mechanical Stress

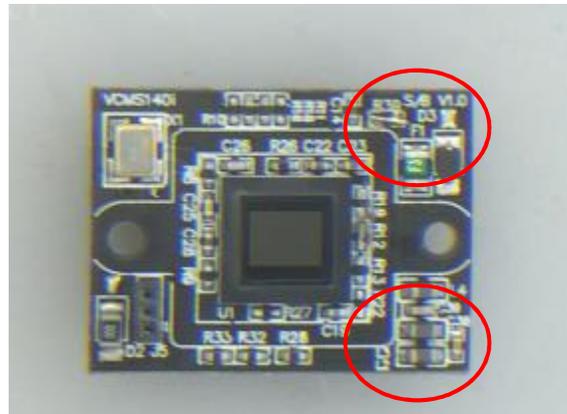
- Certain components in direct contact with potting material experienced mechanical stress after long storage and/or thermal cycling
- Circuit related to image orientation driven by resistor (R39)

# Corrective Action – Potting Material

- Confirm Supplier's material report prior to delivery
- Potting glue A container size reduced from 1000g to 200g
- Potting glue B container size reduced from 500g to 100g
- Use electronic scale to measure potting material for mixing & machine mixer to mix glue A & glue B
- Potting mixture batch produced to each production lot
- Always store potting material in humidity condition at 40~65%

# Corrective Action - Interim

- Adding conformal coating over components as risk mitigation factor as another barrier to prevent possible misuse of potting material
- Change hardware component: R39, R19 ,R12 such that OPTIMA sensor power up change from Flash mode to Auto Config. mode



R39 replaced with jumper wire

Remove R19 & Add jumper wire in location of R12 which will change OPTIMA sensor power up in AUTO Config. mode with image orientation to Mirror

# Corrective Action - Permanent

- PCB layout change, R39, R19 replaced with PCB trace
- Relocate components from edge of PCB to prevent accidental assembly damage