



Customer Display Assembly

Introduction

This whitepaper is aimed at customers who want to integrate a fully assembled display module into their end device. The goal is to avoid common errors during final assembly and to provide guidance on how to achieve a reliable and durable installation.

Typical Problems and Causes

1. Display does not hold
 - Unsuitable adhesives or mounting methods
 - Incompatibility between display adhesive and housing material (e.g. PMMA, ABS, aluminum)
2. Mechanical issues (e.g. Mura)
 - Stress on the display caused by incorrect screw or adhesive positions
 - Stress due to ignoring thermal expansion
3. Damage
 - Dust or moisture ingress due to open or uncontrolled assembly environments



Solutions and Recommendations

1. Display does not hold
 - Use suitable adhesive tapes (e.g. 3M VHB for smooth plastics or metals; LSE adhesive tapes for difficult plastics such as polypropylene)
 - Apply even pressure during bonding (do not press only in the center of the display)
 - Clean bonding surfaces before installation with a suitable cleaning agent (e.g. IPA, isopropanol)
2. Mechanical issues (e.g. Mura)
 - Limit assembly forces: avoid excessive pressure on the panel or edges
 - Consider thermal tolerances: do not create rigid connections, allow for movement
 - Use adhesive tapes with an elastic core
 - Plan spacers or damping elements to decouple housing stress
3. Damage (e.g. ESD)
 - Control the assembly environment: low contamination, clean work surfaces
 - Environment: humidity 40–60%, use ionizers if required

Conclusion

Integrating a finished display into an end product requires precision, suitable materials, and an understanding of mechanical and thermal influences. By following the recommendations outlined in this whitepaper, assembly errors can be avoided and the long-term reliability of the display ensured.

