



GEOMETRY AND CONSTRUCTION

Resistive Touch Panel Specification Framework

Public framework for controlling touch-panel geometry, electrical interface, optical appearance and validation.

Scope Custom resistive touch-panel assembly	Geometry Outline, active area, viewing area, border and tail
Interface Panel architecture, pinout, connector and controller	Control Approved drawing, cosmetic standard and validation record

The legacy customer approval template was replaced with a public specification framework. Project dimensions and acceptance limits remain controlled.

1. Mechanical Drawing

Drawing item	Definition required
Outline	Finished dimensions, corner condition, datums and tolerance
Active area	Touch-sensitive area size and location
Viewing area	Optical opening coordinated with the display and bezel
Border	Inactive perimeter, printed mask and adhesive relationship
Tail	Exit, length, pinout, contacts, stiffener and bend limits
Thickness	Layer construction and finished stack definition

2. Construction

Construction item	Specification content
Top substrate	Surface finish, optical needs and environmental exposure
Electrodes	Panel architecture and controller compatibility
Spacer	Active-area isolation and edge construction
Lower substrate	Material, support and optical relationship
Adhesive / gasket	Bonding, sealing and controlled compression



ELECTRICAL AND OPTICAL

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3. Electrical Interface

Electrical item	Definition required
Panel architecture	Circuit arrangement selected with the controller
Pinout	Electrode names, contact order and mating orientation
Linearity	Calculation, test grid, edge exclusion and acceptance
Insulation	Test voltage, dwell, environment and leakage criterion
Calibration	Factory or system calibration and service method
Noise immunity	Validation with display, power supply, controller and enclosure

4. Optical and Surface

Optical item	Definition required
Transparency / haze	Measurement method and display-stack condition
Surface finish	Clear, anti-glare or other project-approved finish
Printed border	Color, opacity, opening and registration
Cosmetics	Zones, lighting, distance, angle and defect classes
Cleaning	Approved agents, method and post-cleaning acceptance

Touch performance and optical appearance are evaluated in the intended display stack.



INTEGRATION AND VALIDATION

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5. Enclosure Integration

Integration topic	Requirement
Bezel	No preload or interference within the active area
Gasket	Defined location, compression range and sealing function
Support	Flat, stable stack without point loading or twist
Tail routing	Bend relief, connector access and edge protection
Assembly	Cleaning, alignment, fastening and permitted rework

6. Validation Evidence

Validation group	Evidence
Dimensional	Outline, active/viewing areas, thickness, tail and datums
Electrical	Pinout, continuity, insulation, linearity and controller operation
Optical	Transparency, haze, border, readability and cosmetics
Environmental	Project-specific conditioning and post-test acceptance
Durability	Actuation, surface wear, tail flex and connector handling

7. Release Package

- Approved panel drawing and tail pinout.
- Controller definition and calibration method.
- Enclosure drawing and cosmetic acceptance reference.
- Qualification and production test records.

The final display, touch panel, controller and enclosure are approved as one system.