2.8-inch IPS Display Carrier

1.1 Description

A carrier for the 2.8-inch non-touch ER-TFT028A2-4 bare IPS panel.



Assembly view

1.2 Device specifications

Parameter	Specification
Compatible panel	2.8-inch BuyDisplay ER-TFT028A2-4, non-touch IPS
Display interface	Four-wire SPI, interface II
Assembly	Bare panel with flex cable, mounted separately from carrier
PCB dimensions	36 × 38 mm
Mounting holes	4 × Ø2.2 mm for M2 screws; 30 × 10 mm center spacing

1.3 Using the board

Use the panel as a compact desktop status screen. With power removed, verify the contact face and pin 1 before seating the ribbon. Mount the panel independently of the PCB and leave room to open the latch.

Device guide

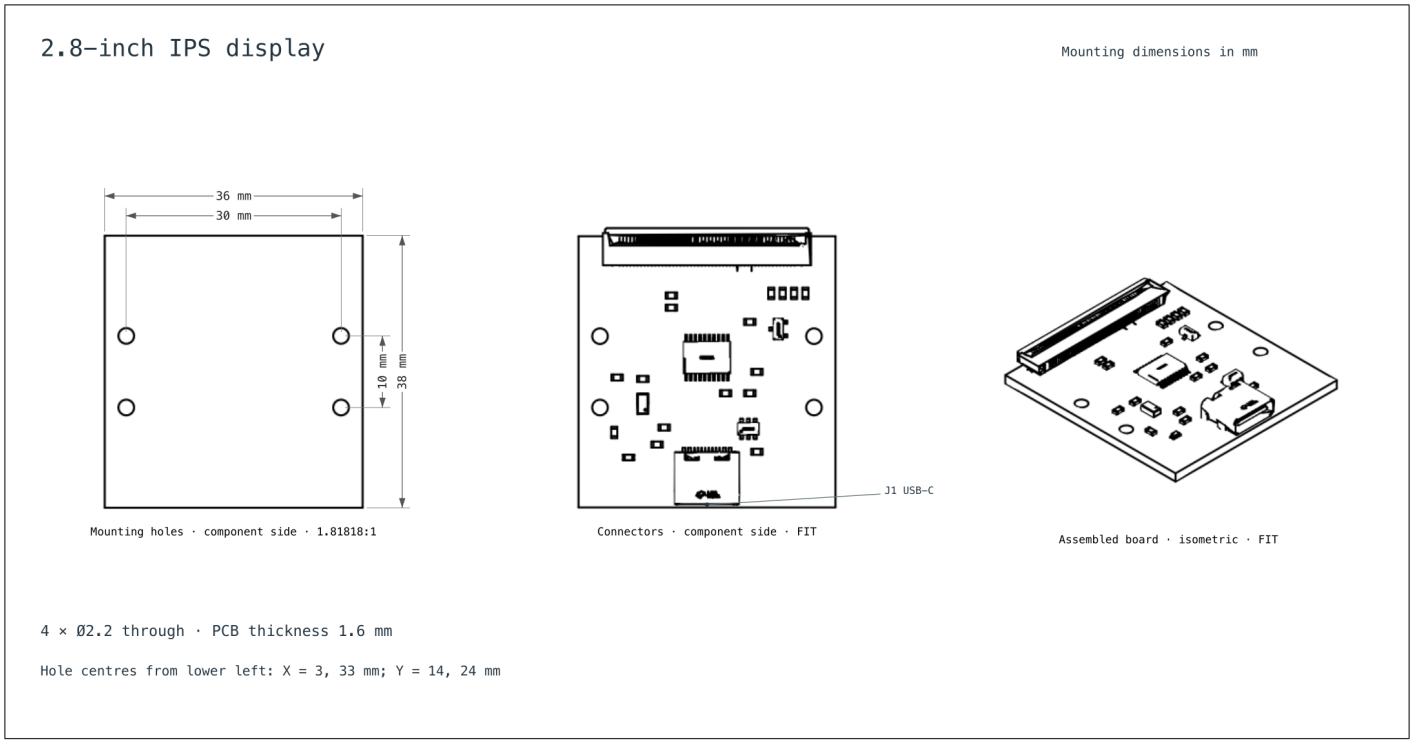
2 Protocol reference

Four-wire SPI · interface II (IM3…IM0 = 1110). This prototype has no published USB command set. The table describes the interface on the PCB.

Operation	Request or signal	Result
Reset	Pulse the panel reset line.	Returns the panel to its startup state.
Send command	Select the panel with CS and use D/C to select command bytes. Clock bytes onto MOSI.	Selects a panel operation.
Write pixels	Initialize the panel, set its address window, then transfer pixel bytes in data mode.	Updates that rectangle.
Dim backlight	Adjust backlight PWM duty cycle.	Changes illumination.

3 Mechanical information

3.1 Assembly and mounting



Component-side plan and isometric assembly. Dimensions in millimeters.

3.2 Installation dimensions

The PCB measures **36 × 38 mm**, with **4 × Ø2.2 mm** clearance holes for M2 screws. The centre-to-centre spacing is **30 × 10 mm**. Orient the component side with the **J1 USB-C port at the bottom**. Measure right and up from the **lower-left corner of the PCB** in the component-side view. The hole centres are at X = 3, 33 mm and Y = 14, 24 mm.

Modeled component height: approximately 3.3 mm above the component-side PCB surface. The CAD files show the populated carrier. Allow separate space for the panel and flex cable.

3.3 Design resources

Device guide · **Full-size mounting drawing** · **Drawing TSX** · **PCB source**