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# SL-TFT7-TP-800-480 Datasheet and Pinout

Rev. 20210329062523

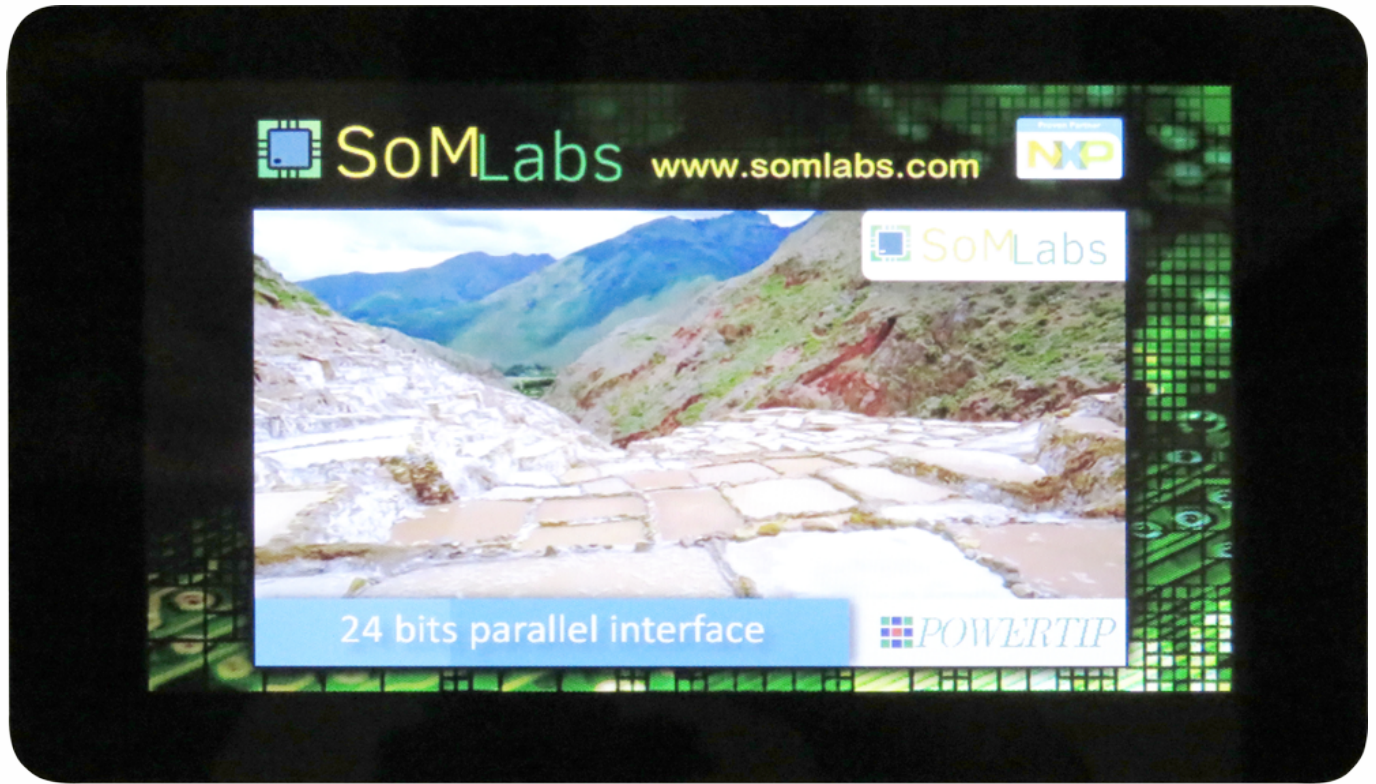
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# Display module SL-TFT7-TP-800-480 Datasheet and Pinout

## General description



 **POWERTIP**

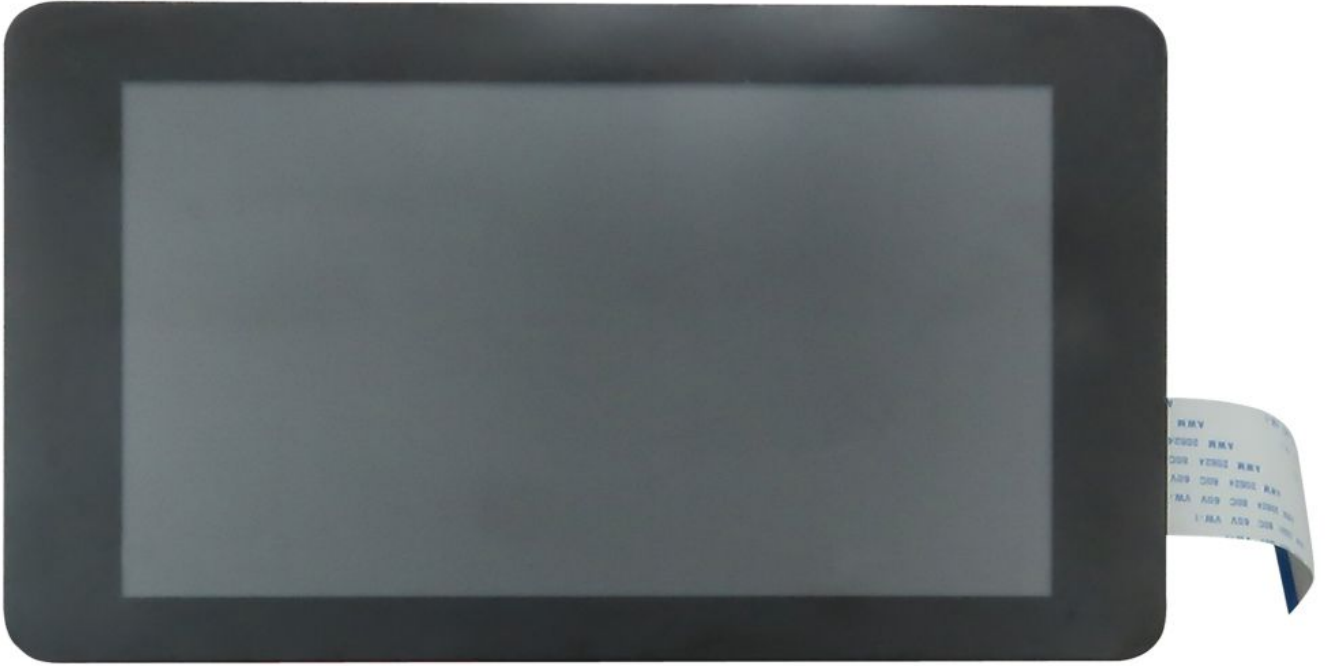
SL-TFT7-TP-800-480 is complete display TFT-LCD (800x480 pixels) module integrated with capacitive touch-panel. Module is powered from +5V @400mA, data interface is 24-bit parallel RGB + I2C (for touch-panel controller). SL-TFT7-TP-800-480 module is equipped with FPC50 connector, 1:1 compatible with VisionCB-STD v.1.0 and VisionCB-STD v.1.4. SoMLabs also provides a complete hardware and software development board for the SoM in the form of a carrier board and optional TFT display and touch-panel.

## Features

- Powered by Powertip PH800480T013-IBC15 LCD-TFT
- Display size 7 inches
- Display LCD matrix 800x480 px
- Capacitive touch-panel + TP controller
- 24-b RGB parallel interface
- Single supply +5V (DC/DC converters built-in)
- Backlight LEDs built-in
- Compatible with SoMLabs carrier boards:
  - VisionCB-STD v.1.0
  - VisionCB-STD v.1.4

## Multimedia

Pictures



POWERTIP



SoMLabs SOM – System on Module • Ready to use solution NXP



**VisionCB-STD**

- Low Cost Starter Kit for i.MX6ULL
- Arduino Connector
- Raspberry Pi Connector
- RGB Display Interface
- Connectivity USB and Ethernet



TFT from **POWERTIP**

- PH800480T013-IBC15
- TFT with capacitive touch panel
- Resolution: 800 x 480 dots
- 24 bit RGB interface
- Screen size 7.0 inch
- Touch panel with I2C output Interface

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**VisionSOM-6ULL**

**eMMC**



- NXP i.MX6ULL Cortex A7 (up to 800MHz)
- 512MB DDR3L
- 8GB eMMC
- GPU: PXP v2.0 3D Graphics for LCD-TFT
- NXP i.MX6ULL
- Edge Connector SOCIM 200
- Industrial Temp. Range

**NAND**



- NXP i.MX6ULL Cortex A7 (up to 800MHz)
- 512MB DDR3L
- 8GB NAND
- GPU: PXP v2.0 3D Graphics for LCD-TFT
- NXP i.MX6ULL
- Edge Connector SOCIM 200
- Industrial Temp. Range

**microSD**



- NXP i.MX6ULL Cortex A7 (up to 800MHz)
- 512MB DDR3L
- 8GB microSD
- GPU: PXP v2.0 3D Graphics for LCD-TFT
- NXP i.MX6ULL
- Edge Connector SOCIM 200
- Industrial Temp. Range

www.somlabs.com www.nxp.com/imx6ull

## Ordering info

**SL-TFT7-TP-800-480** - FPC 50-pin 15-cm flat cable (A-A) is included.



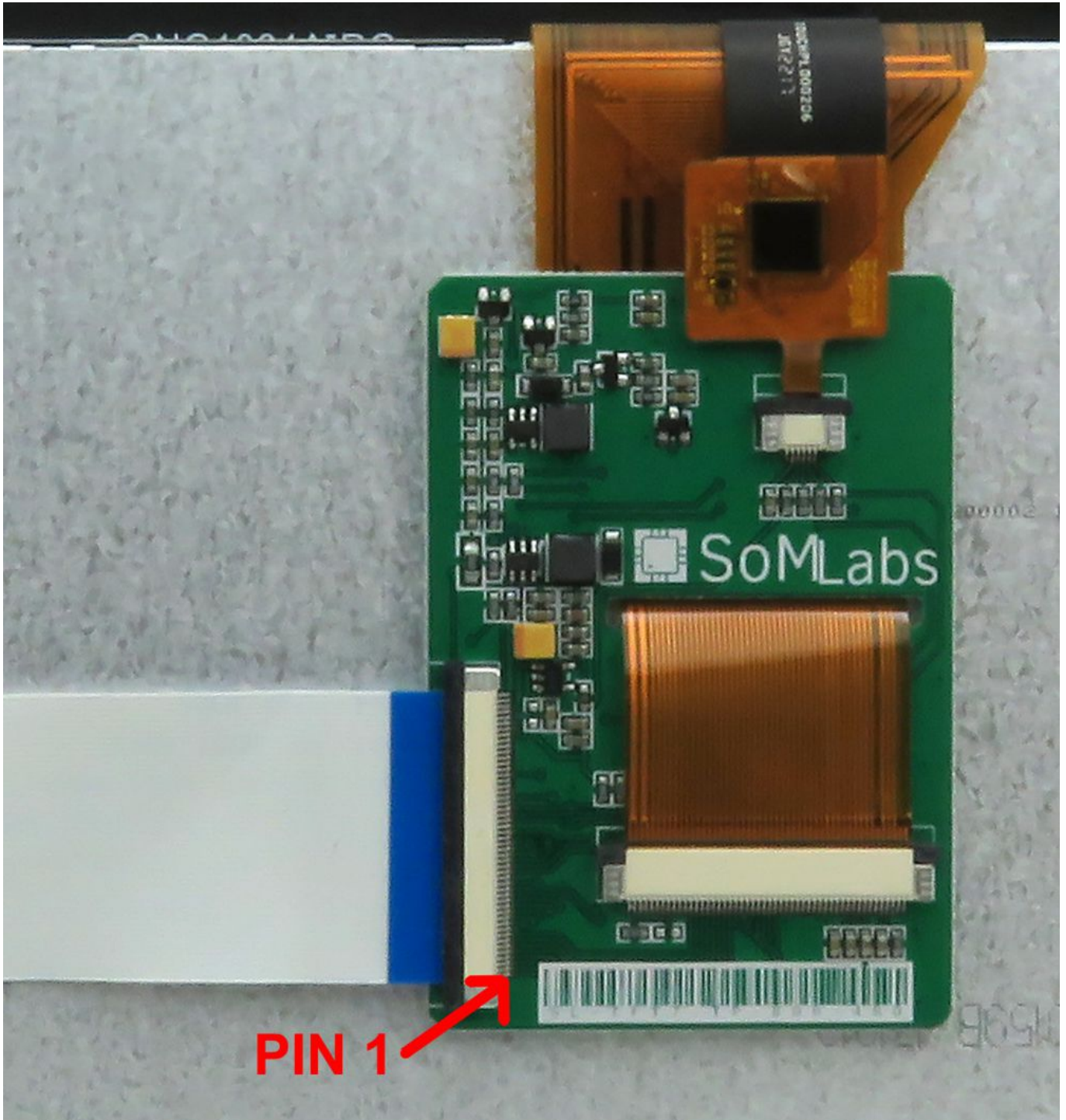
## Operating ranges

Parameter	Value	Unit	Comment
Power Supply	5.0	V	-
Current	0.4	A	Maximum value, depends on displayed picture and backlight light intensity
Video input voltage	max. 3.3	V	
Touch panel controller IO voltage	max. 3.3	V	I2C interface, 2.2k $\Omega$ pull-up resistor on SDA and SCL lines
Environment temperature	-20...+75	$^{\circ}$ C	-

## Electrical parameters

Signal name	Parameter	Value			Units
		Min.	Typ.	Max.	
+5V	Supply Voltage	4.0	5.0	5.5	V
-	Total Supply Current	230	330	400	mA
V <sub>IO</sub>	Video IO Input Voltage	0	3.3	3.6	V
V <sub>TPIO</sub>	TP Controller IO Voltage	0	3.3	3.6	V
V <sub>PWREN</sub>	Power Enable Input Voltage	0	-	5.5	V
f <sub>TPI2C</sub>	TP Controller I2C Speed	-	-	400	kHz
f <sub>PWM</sub>	PWM Dimming Frequency	-	-	1	kHz
R <sub>INT</sub>	Interrupt Output Pull-up Resistance	-	10	-	kΩ
R <sub>PWREN</sub>	Power Enable Pull-up Resistance	-	10	-	kΩ
R <sub>TPI2C</sub>	Touch Panel Controller I2C IOs Pull-up Resistance	-	2.2	-	kΩ

# Pinout



FPC50 connector pin	Function name	Description
1	B0	Blue 0 input
2	B1	Blue 1 input
3	B2	Blue 2 input
4	B3	Blue 3 input
5	B4	Blue 4 input

6	B5	Blue 5 input
7	B6	Blue 6 input
8	B7	Blue 7 input
9	GND	Power supply
10	G0	Green 0 input
11	G1	Green 1 input
12	G2	Green 2 input
13	G3	Green 3 input
14	G4	Green 4 input
15	G5	Green 5 input
16	G6	Green 6 input
17	G7	Green 7 input
18	GND	Power supply
19	R0	Red 0 input
20	R1	Red 1 input
21	R2	Red 2 input
22	R3	Red 3 input
23	R4	Red 4 input
24	R5	Red 5 input
25	R6	Red 6 input
26	R7	Red 7 input
27	GND	Power supply
28	DE	DE display controller input
29	HSYNC	HSYNC display controller input
30	VSYNC	VSYNC display controller input
31	GND	Power supply
32	DCLK	Main clock input (display controller)
33	GND	Power supply
34	-	-
35	-	-
36	nINT	Touch-panel controller interrupt output (OC with 10kΩ pull-up)
37	GPIO1	PWM signal input for backlight control (leave open if not used)
38	-	-
39	-	-
40	-	-
41	-	-
42	SCL	Touch-panel controller SCL input (with 2.2kΩ pull-up)
43	SDA	Touch-panel controller SDA IO (with 2.2kΩ pull-up)
44	GND	Power supply
45	NC	No external connections!
46	NC	No external connections!
47	+5V	Power supply
48	+5V	Power supply
49	nRES_TP	Touch-panel controller reset signal
50	PWREN	Backlight LEDs on/off, with 10kΩ pull-up resistor (level +5V). If PWREN pin is open or connected to "1" - LEDs are on.

## Recommended power supply connection

[File:SL-TFT7-TP-800-480-connection-5V.png](#)

## Dimensions

