

2.47 inch Round DSI Screen 480x480 with CTP

MB1835

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Sheet 2 : LCD_DSI

U_LCD_DSI
LCD_DSI.SchDoc

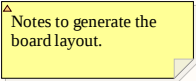


Legend

General comment such as function title, configuration, ...

Text to be added to silkscreen.

Warning text.



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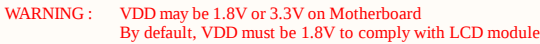
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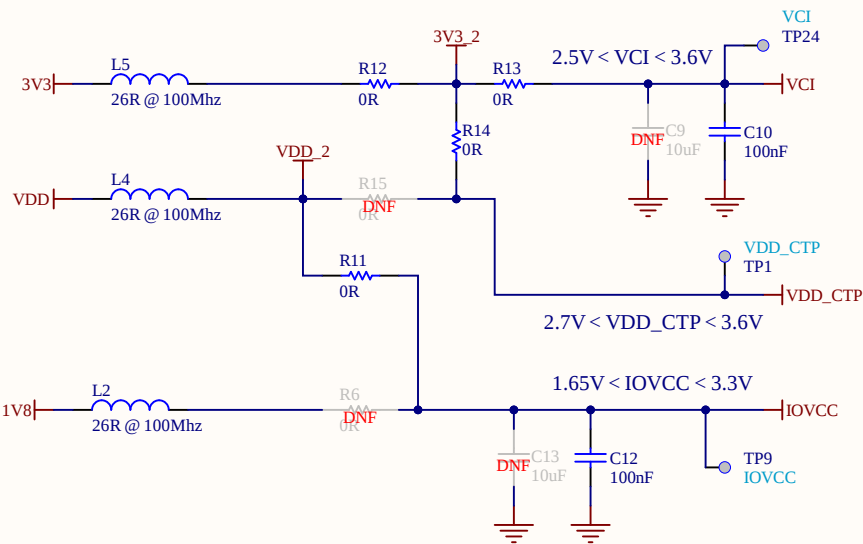
Title: Project overview		
Project: 2.47 inch Round DSI Screen 480x480 with CTP		
Variant: VDD1V8		
Revision: B-01	Reference: MB1835	
Size: A4	Date: 14 FEB 2023	Sheet: 1 of 2



△ The N/P signals shall be length equalized, and should not include any PTH vias.



Ensure Power supplies from Motherboard respect below voltage limits



DIRx = 0 : B => A
DIRx = 1 : A => B

WARNING: $V_{CCA} = \text{or} < V_{CCB}$ with Level shifter

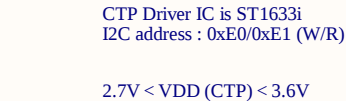
Top Diagram: TCA9406DCTR

- VCCA:** $1.65V < V_{CCA} \leq V_{CCB}$
- VCCB:** $2.7V < V_{CCB} < 3.6V$
- Pin 1:** V_{CCB}
- Pin 2:** V_{CCB}
- Pin 3:** V_{CCB}
- Pin 4:** V_{CCB}
- Pin 5:** V_{CCB}
- Pin 6:** V_{CCB}
- Pin 7:** V_{CCB}
- Pin 8:** V_{CCB}
- Pin 9:** V_{CCB}
- Pin 10:** V_{CCB}
- Pin 11:** V_{CCB}
- Pin 12:** V_{CCB}
- Pin 13:** V_{CCB}
- Pin 14:** V_{CCB}
- Pin 15:** V_{CCB}
- Pin 16:** V_{CCB}
- Pin 17:** V_{CCB}
- Pin 18:** V_{CCB}
- Pin 19:** V_{CCB}
- Pin 20:** V_{CCB}
- Pin 21:** V_{CCB}
- Pin 22:** V_{CCB}
- Pin 23:** V_{CCB}
- Pin 24:** V_{CCB}
- Pin 25:** V_{CCB}
- Pin 26:** V_{CCB}
- Pin 27:** V_{CCB}
- Pin 28:** V_{CCB}
- Pin 29:** V_{CCB}
- Pin 30:** V_{CCB}
- Pin 31:** V_{CCB}
- Pin 32:** V_{CCB}
- Pin 33:** V_{CCB}
- Pin 34:** V_{CCB}
- Pin 35:** V_{CCB}
- Pin 36:** V_{CCB}
- Pin 37:** V_{CCB}
- Pin 38:** V_{CCB}
- Pin 39:** V_{CCB}
- Pin 40:** V_{CCB}
- Pin 41:** V_{CCB}
- Pin 42:** V_{CCB}
- Pin 43:** V_{CCB}
- Pin 44:** V_{CCB}
- Pin 45:** V_{CCB}
- Pin 46:** V_{CCB}
- Pin 47:** V_{CCB}
- Pin 48:** V_{CCB}
- Pin 49:** V_{CCB}
- Pin 50:** V_{CCB}
- Pin 51:** V_{CCB}
- Pin 52:** V_{CCB}
- Pin 53:** V_{CCB}
- Pin 54:** V_{CCB}
- Pin 55:** V_{CCB}
- Pin 56:** V_{CCB}
- Pin 57:** V_{CCB}
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- Pin 59:** V_{CCB}
- Pin 60:** V_{CCB}
- Pin 61:** V_{CCB}
- Pin 62:** V_{CCB}
- Pin 63:** V_{CCB}
- Pin 64:** V_{CCB}
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- Pin 66:** V_{CCB}
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- Pin 75:** V_{CCB}
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- Pin 81:** V_{CCB}
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- Pin 86:** V_{CCB}
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- Pin 90:** V_{CCB}
- Pin 91:** V_{CCB}
- Pin 92:** V_{CCB}
- Pin 93:** V_{CCB}
- Pin 94:** V_{CCB}
- Pin 95:** V_{CCB}
- Pin 96:** V_{CCB}
- Pin 97:** V_{CCB}
- Pin 98:** V_{CCB}
- Pin 99:** V_{CCB}
- Pin 100:** V_{CCB}

Bottom Diagram: SN74AVC2T245

- VCCA:** $1.65V < V_{CCA} \leq V_{CCB}$
- VCCB:** $2.7V < V_{CCB} < 3.6V$
- Pin 1:** V_{CCB}
- Pin 2:** V_{CCB}
- Pin 3:** V_{CCB}
- Pin 4:** V_{CCB}
- Pin 5:** V_{CCB}
- Pin 6:** V_{CCB}
- Pin 7:** V_{CCB}
- Pin 8:** V_{CCB}
- Pin 9:** V_{CCB}
- Pin 10:** V_{CCB}
- Pin 11:** V_{CCB}
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- Pin 55:** V_{CCB}
- Pin 56:** V_{CCB}
- Pin 57:** V_{CCB}
- Pin 58:** V_{CCB}
- Pin 59:** V_{CCB}
- Pin 60:** V_{CCB}
- Pin 61:** V_{CCB}
- Pin 62:** V_{CCB}
- Pin 63:** V_{CCB}
- Pin 64:** V_{CCB}
-

1.65V < IOVCC < 3.3V
2.5V < VCI < 3.6V



The schematic shows the LED driver circuit for the TPS61165 converter. The input voltage is VCC_HI-POWER, which is connected to VIN through resistor R5 (0R). A 3V3 supply is connected to the BACKLIGHT_CTRL pin through resistor R4 (0R), which is also labeled DNF. The output of the converter is connected to the LED+ pin through diode D1 (STPS1L40ZFY) and capacitor C3 (1uF). The output current is ILED = 0.2/R3 : typ = 35,7 mA. The output voltage is TP29 LED+, and the output current is TP28 LED-. The output is connected to the LED- pin through resistor R3 (5R6). The output is also connected to HP_GND through capacitor C2 (220nF). The output is also connected to HP_GND through capacitor C1 (4.7uF). The output is also connected to HP_GND through capacitor C3 (1uF).

Component Values:

- R4: 0R
- R5: 0R
- L1: 15uH
- C1: 4.7uF
- C2: 220nF
- C3: 1uF
- R3: 5R6

IC Pin Connections:

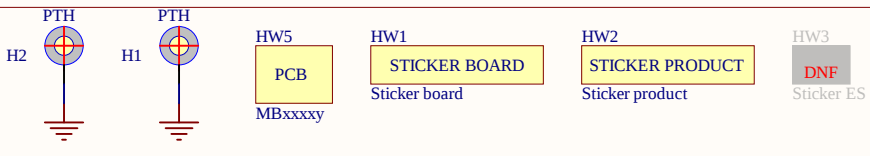
- VIN: Input Voltage
- FB: Feedback
- CTRL: Control
- COMP: Compensation
- GND: Ground
- SW: Switching Node

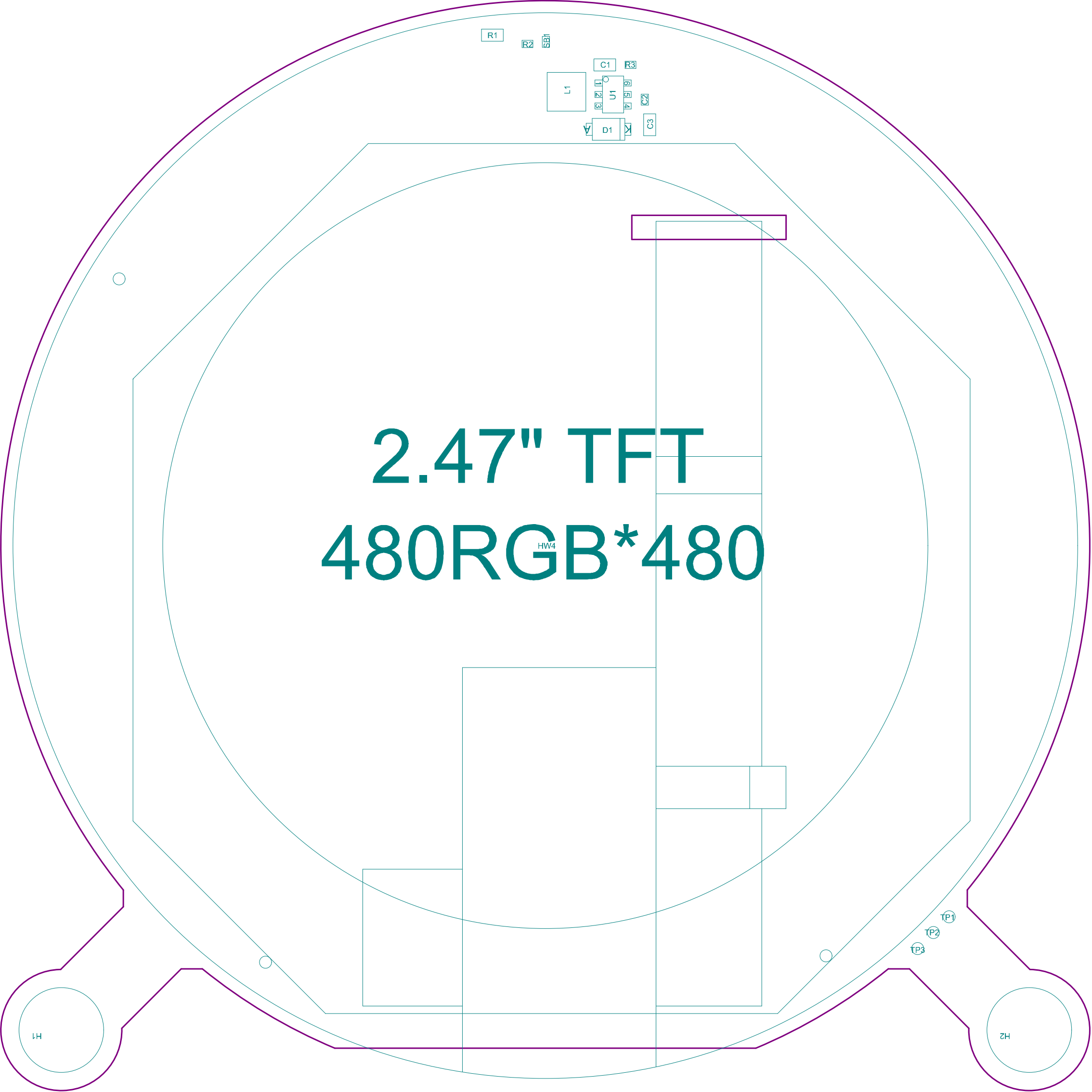
Other Components:

- D1: STPS1L40ZFY

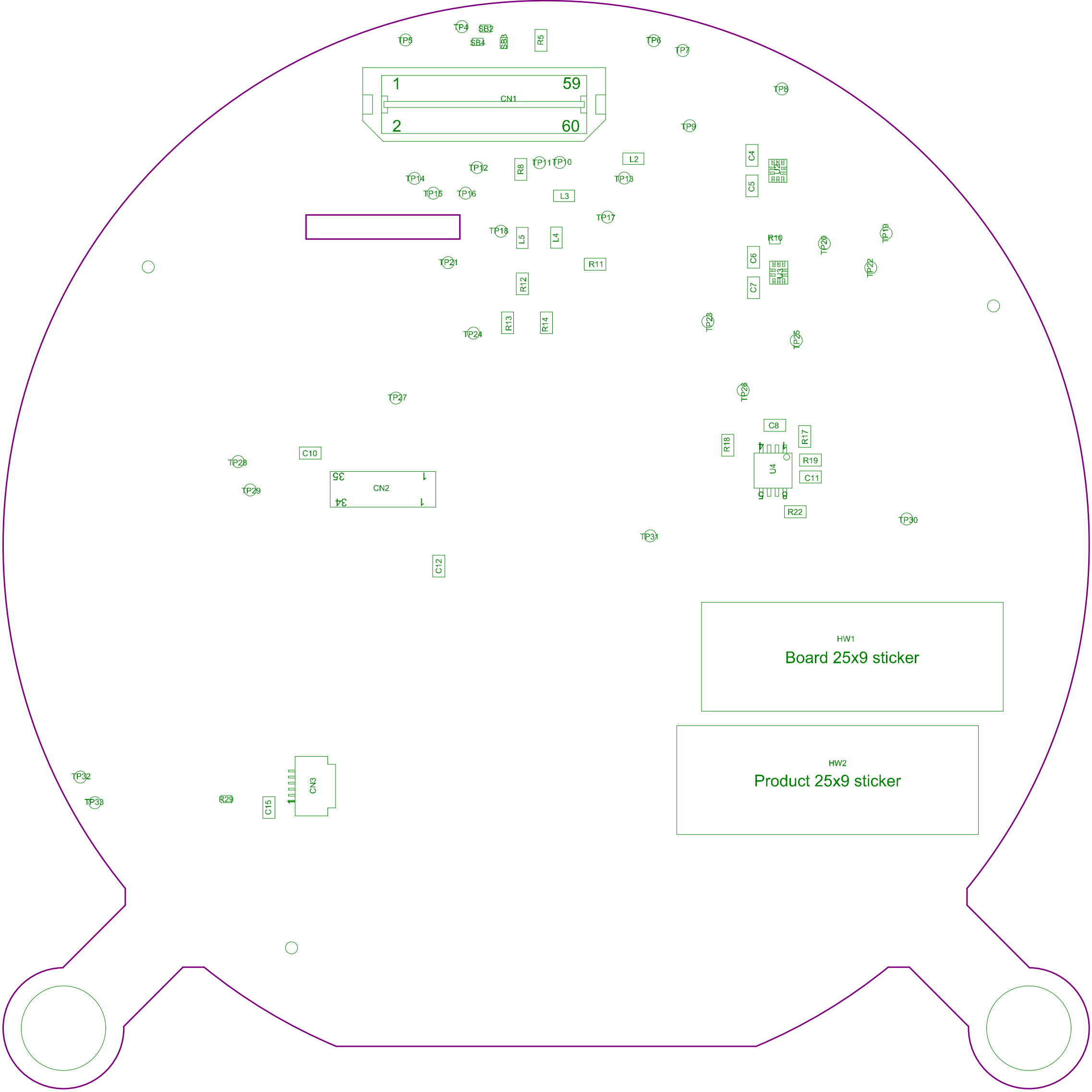
Notes:

- SCREEN_SWIRE and SCREEN_BL_CTRL are connected to SB1.
- SCREEN_BL_CTRL supports PWM and SWIRE Backlight modes.
- The local HP_GND plane shall be large enough below U10, and connected to Ground close to CN1 with a wide track.





Project: 2.47 inch Round DSI Screen 480x480 with CTP		
Layer: M14-Top Assembly	Gerber: .GM14	
Variant: VDD1V8	MB1835	
Date: 14 FEB 2023	Rev: B	



Project: 2.47 inch Round DSI Screen 480x480 with CTP

Layer: M15-Bottom Assembly

Gerber: .GM15

Variant: VDD1V8

MB1835

Date: 14 FEB 2023

Rev: B



