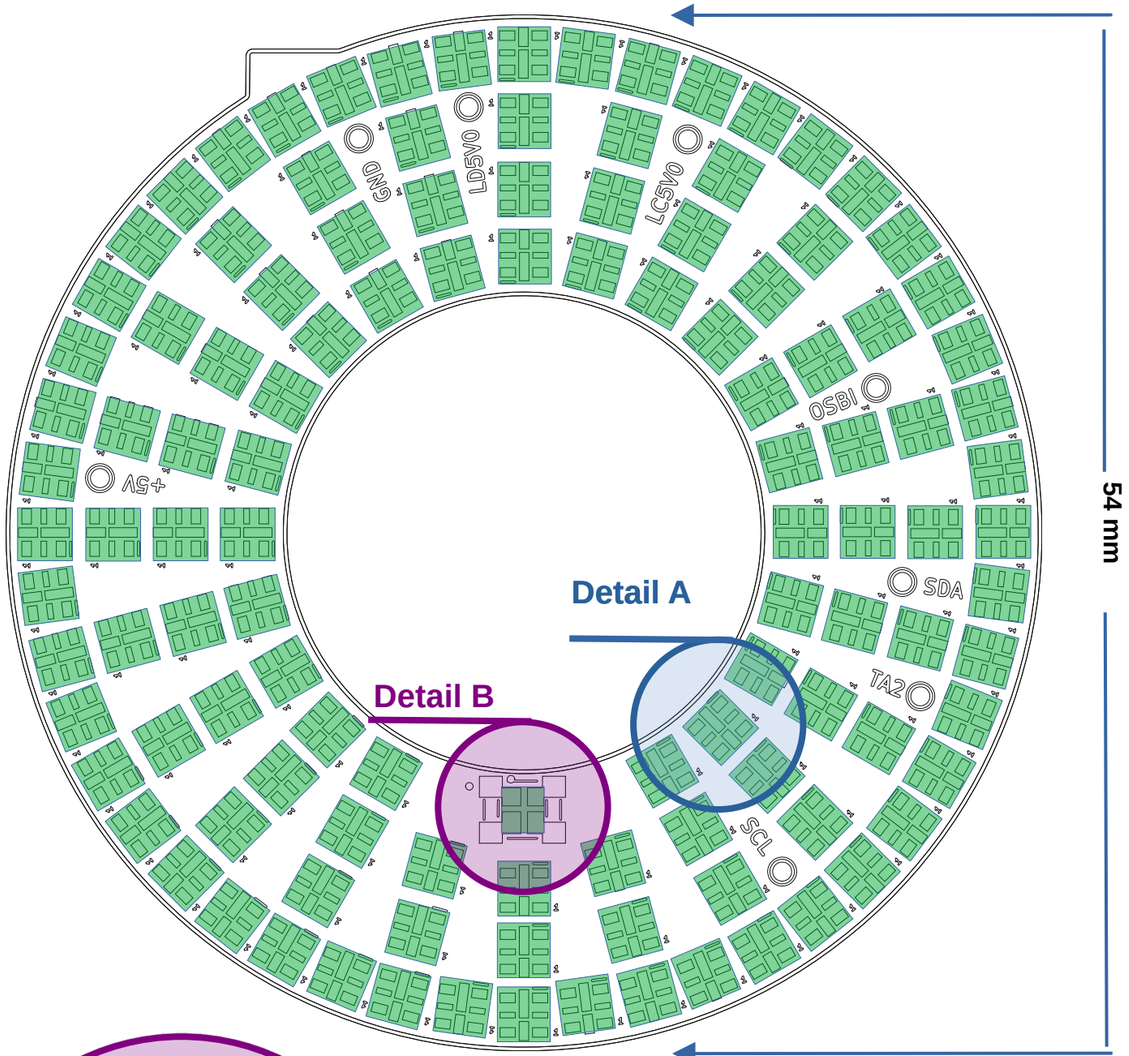
Top Side

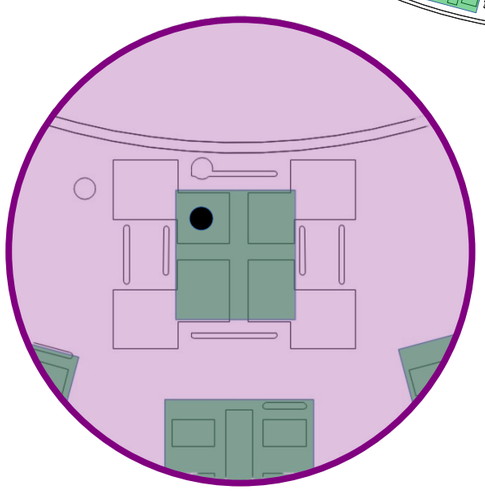


1. The top side of this PCB needs to be placed first so that the designed solder paste jig can be used. See page 2.

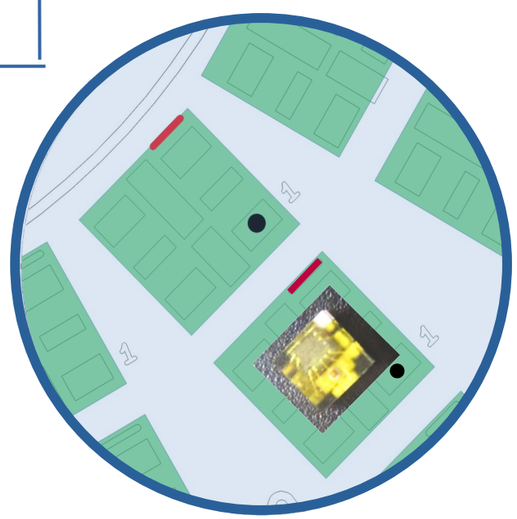
2. Components highlighted GREEN should be inspected for polarity prior to reflow or powering on the PCB. Follow the PCB's silkscreen for polarity.
    1. See Detail A for LED polarity. Index is shown with a RED line (silkscreen mark), pin 1 is indicated with a black dot and a "1" on the silkscreen. Reference the Datasheet for component markings.
    2. Polarity on the IR Reflective Sensor is denoted by the pad size. One side has pads slightly larger than the other. The larger pad goes toward the dot on the silkscreen. See Detail B for sensor polarity. Pin 1 (larger side) is shown with a black dot.

3. All the LEDs on this side of the board have **critical** placement Ensure the LEDs are placed as precisely as possible. Check every LED prior to reflow.

4. This LED board has support for 2 different IR reflective sensor packages. The smaller one should be used.

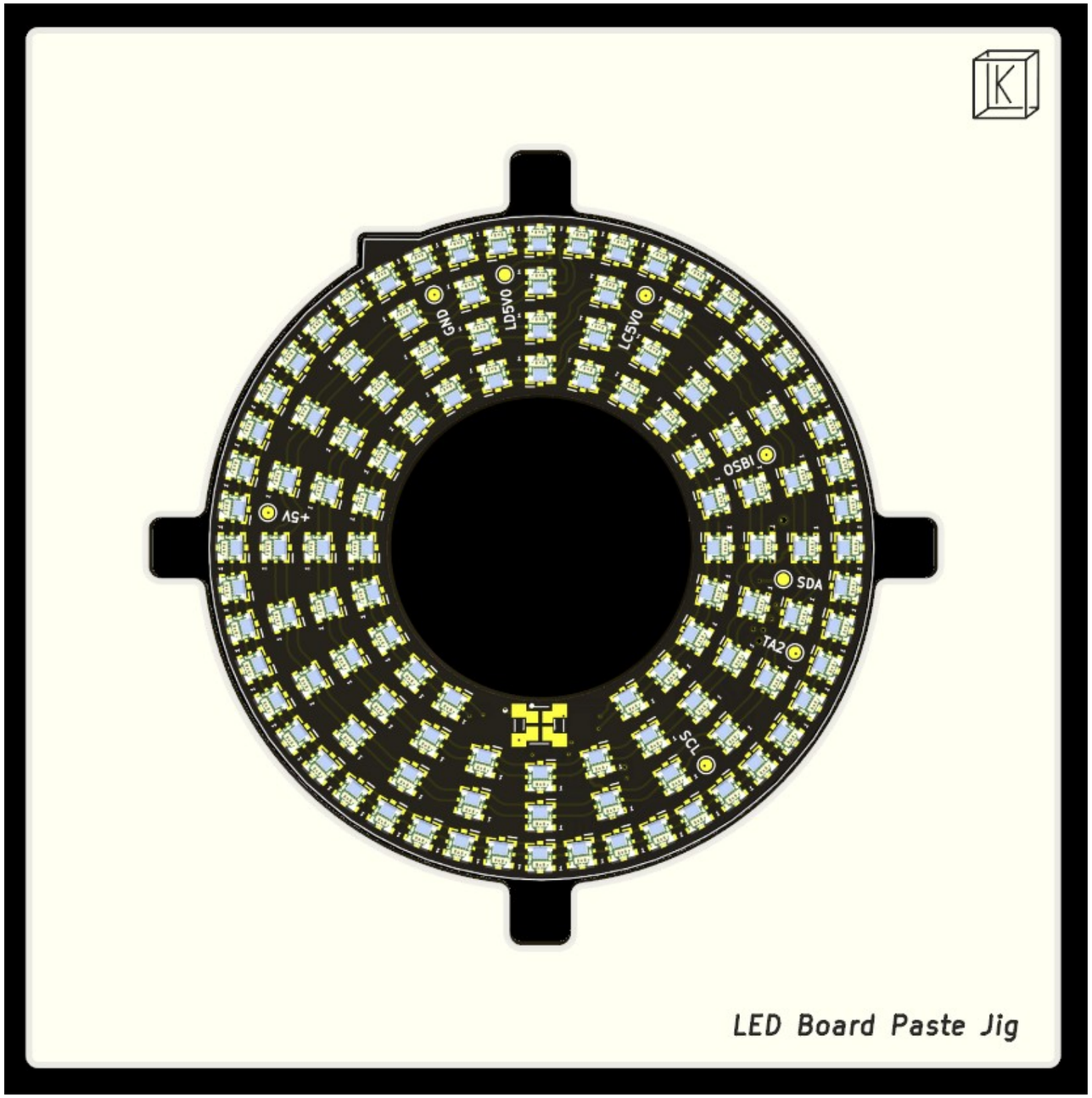


Detail B



Detail A

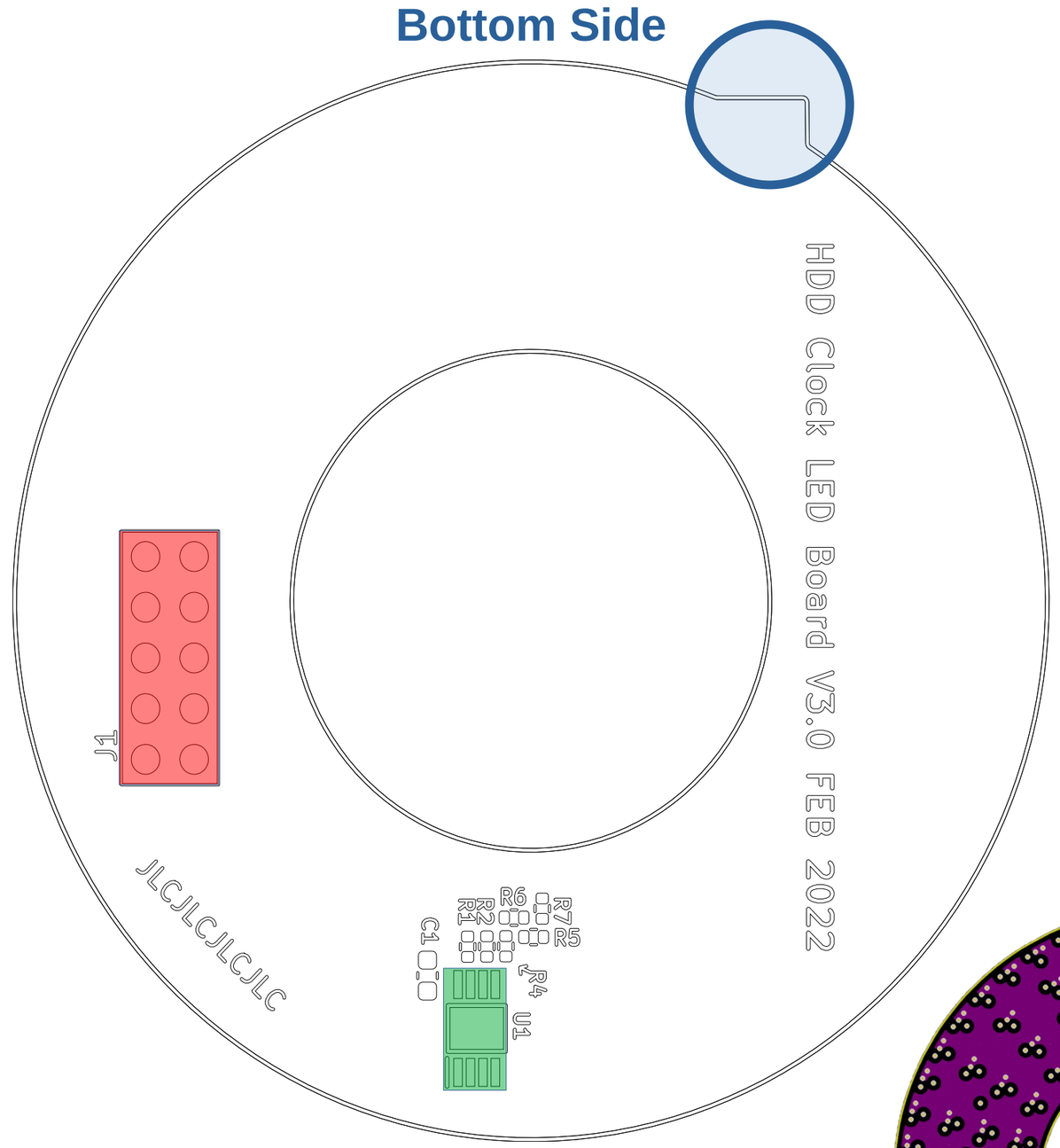
Project: HDD Clock V3.0 LED Board PCB Assembly		
Pg. Description: Top Side SMT Polarity and Component Notes		
Author: Kadin Whiting	REV: -	PG 1 of 5



5. Shown to the left is the HDD Clock V3.0 LED Board Paste Jig with the LED board mounted inside. Load the LED board into the jig as shown for solder paste application. This jig can also be used to hold the PCB in place for component placement.

6. Instructions to use this jig:
    1. Use tape to secure the HDD Clock V3.0 LED Board Paste Jig to a stable, flat surface.
    2. Place the HDD Clock V3.0 LED Board into the jig.
    3. Align the solder paste stencil to the pads on the PCB. Use tape to secure the solder stencil. The paste jig is about the same size as the ordered solder stencil
    4. Using an appropriate tool, apply solder paste to the PCB.
    5. Using tweezers, remove the HDD Clock V3.0 LED Board from the paste jig.

Project: HDD Clock V3.0 LED Board PCB Assembly		
Pg. Description: Top Side Solder Paste Jig		
Author: Kadin Whiting	REV: -	PG 2 of 5



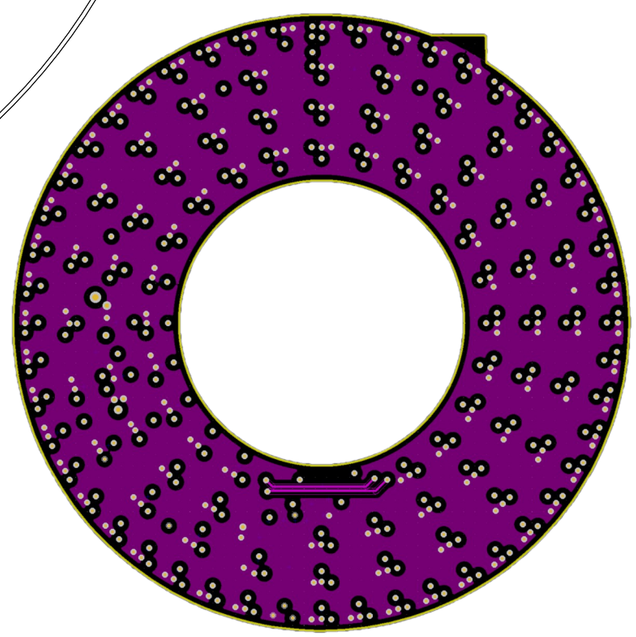
7. Assembly contains MLCC capacitors. MLCC capacitors are sensitive to heat. Temperatures shall be controlled when hand and reflow soldering.

8. Components highlighted GREEN should be inspected for polarity prior to soldering or powering on the PCB. Follow the PCB's silkscreen for polarity.

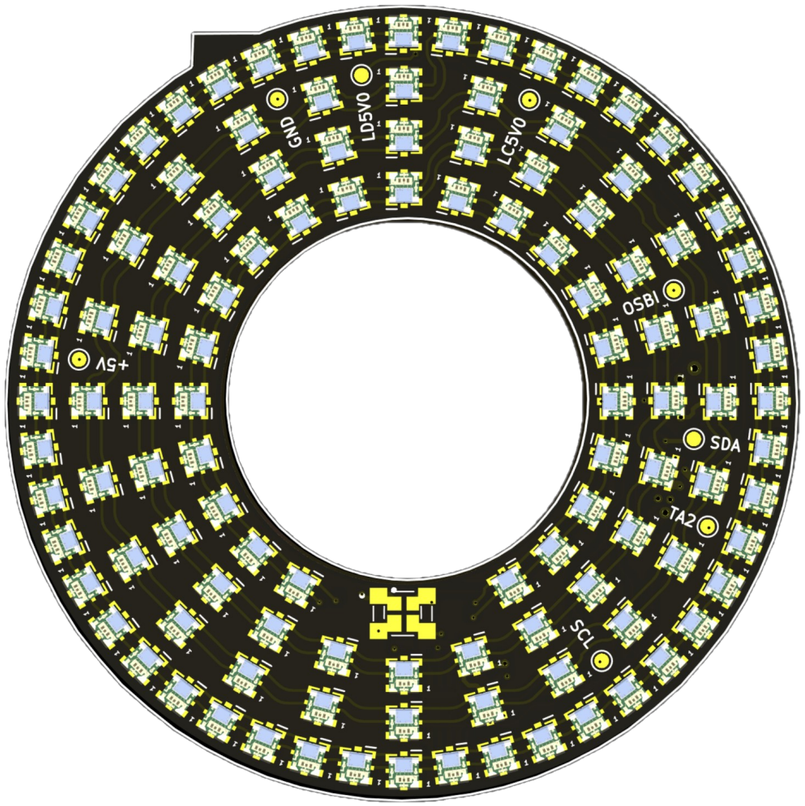
9. Highlighted RED is where gold disks are to be soldered. Placement of these disks is critical. Ensure the gold disks are placed as close to center of each pad as possible.

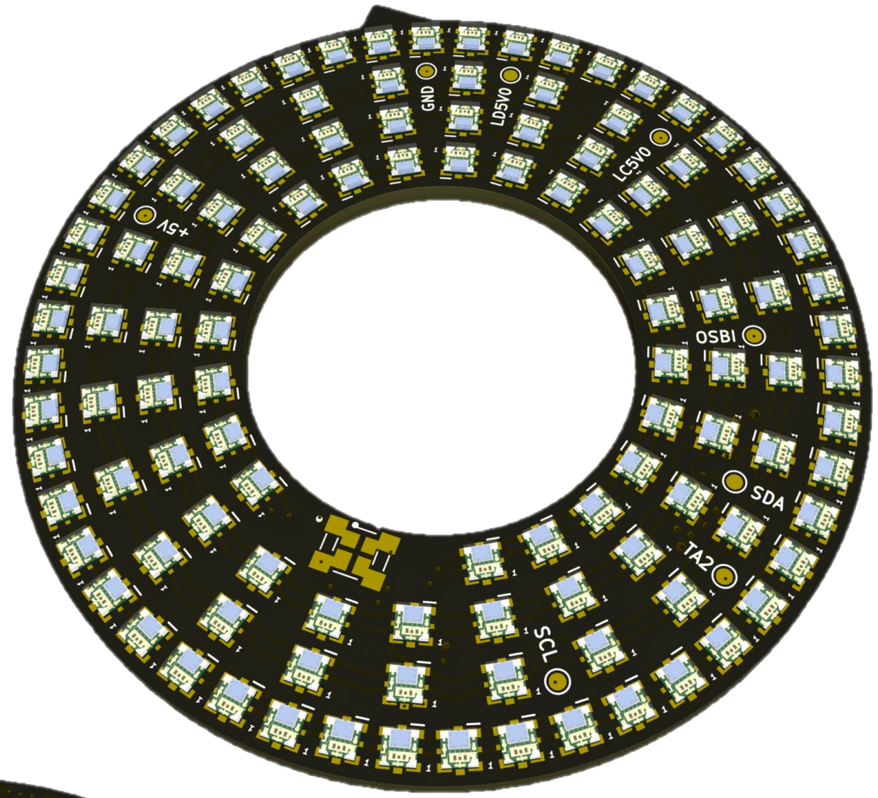
10. Assemble bottom side parts by hand after the LEDs on the top side have been installed.
    1. Apply solder paste to footprint J1, place the gold disks (see note 9), then use hot-air soldering method to solder the gold disks.

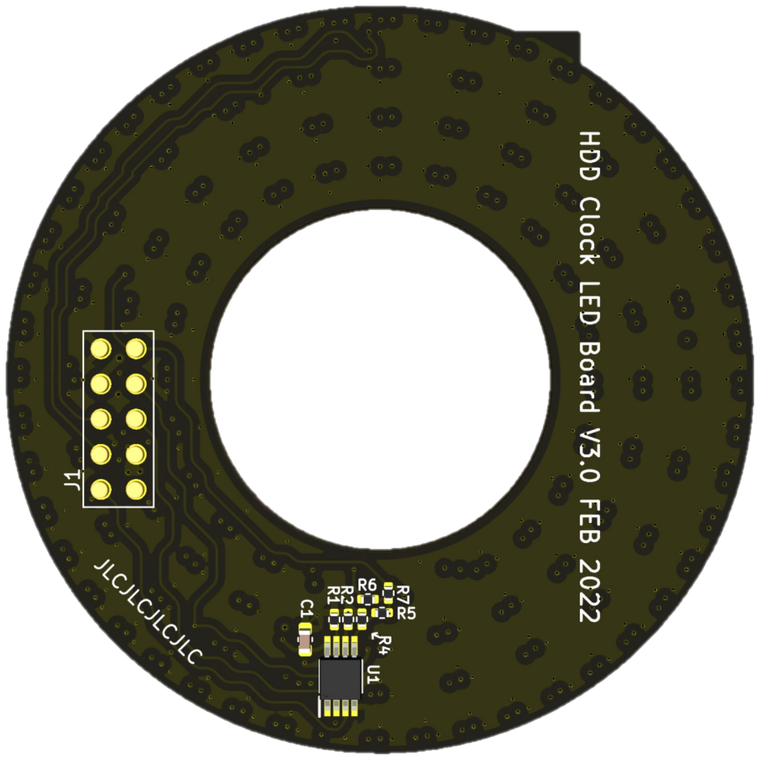
11. Circled in BLUE is a tab intended to assist with the indexing of this board in the HDD case. This tab purposefully does not contain any copper. It may be shaped or removed. See in the image below where the copper layers are shown in PURPLE.

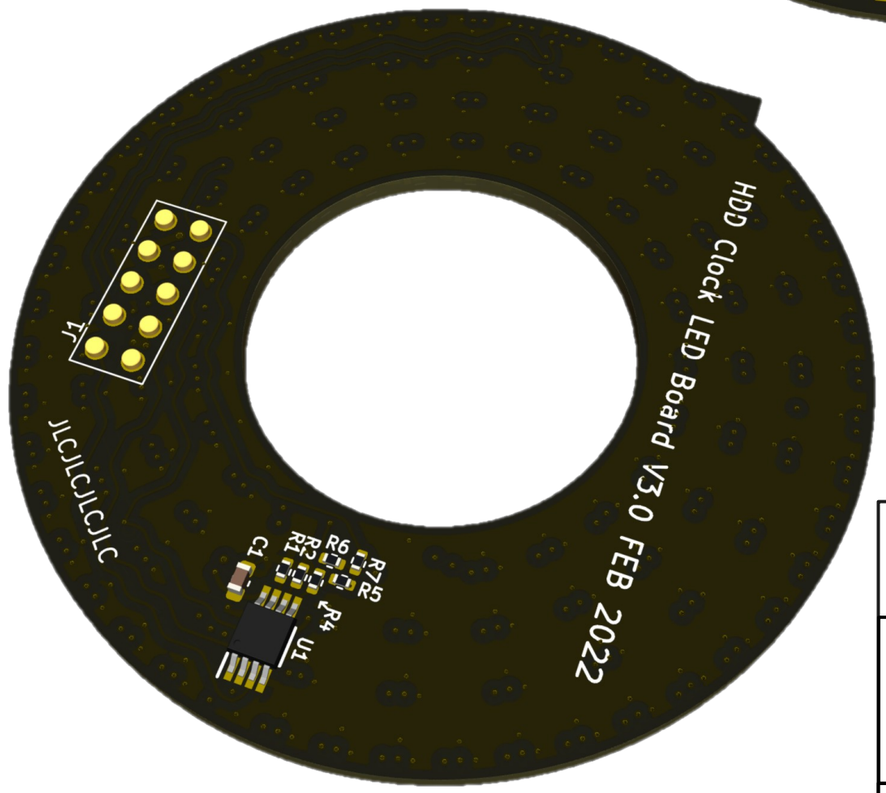


Project: HDD Clock V3.0 LED Board PCB Assembly		
Pg. Description: Bottom Side SMT Polarity and Component Notes		
Author: Kadin Whiting	REV: -	PG 3 of 5









Project:

HDD Clock V3.0 LED Board PCB Assembly

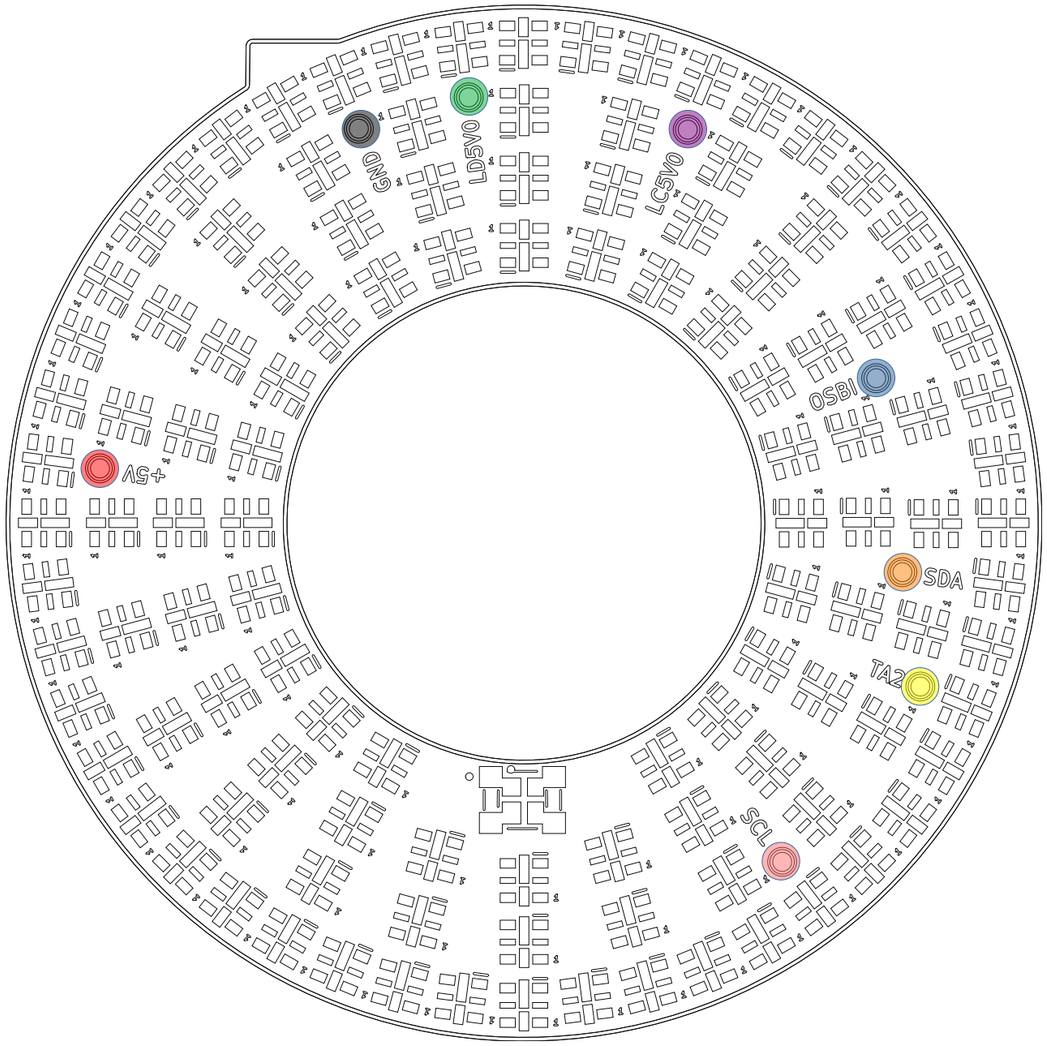
Pg. Description:

Completed Isometric Views

Author: Kadin Whiting

REV: -

Top Side



12. Using a DMM check for shorts between all the highlighted test points prior to applying power to the PCB.

Project: HDD Clock V3.0 LED Board PCB Assembly			
Pg. Description: Check For Electrical Shorts			
Author: Kadin Whiting		REV: -	PG 5 of 5