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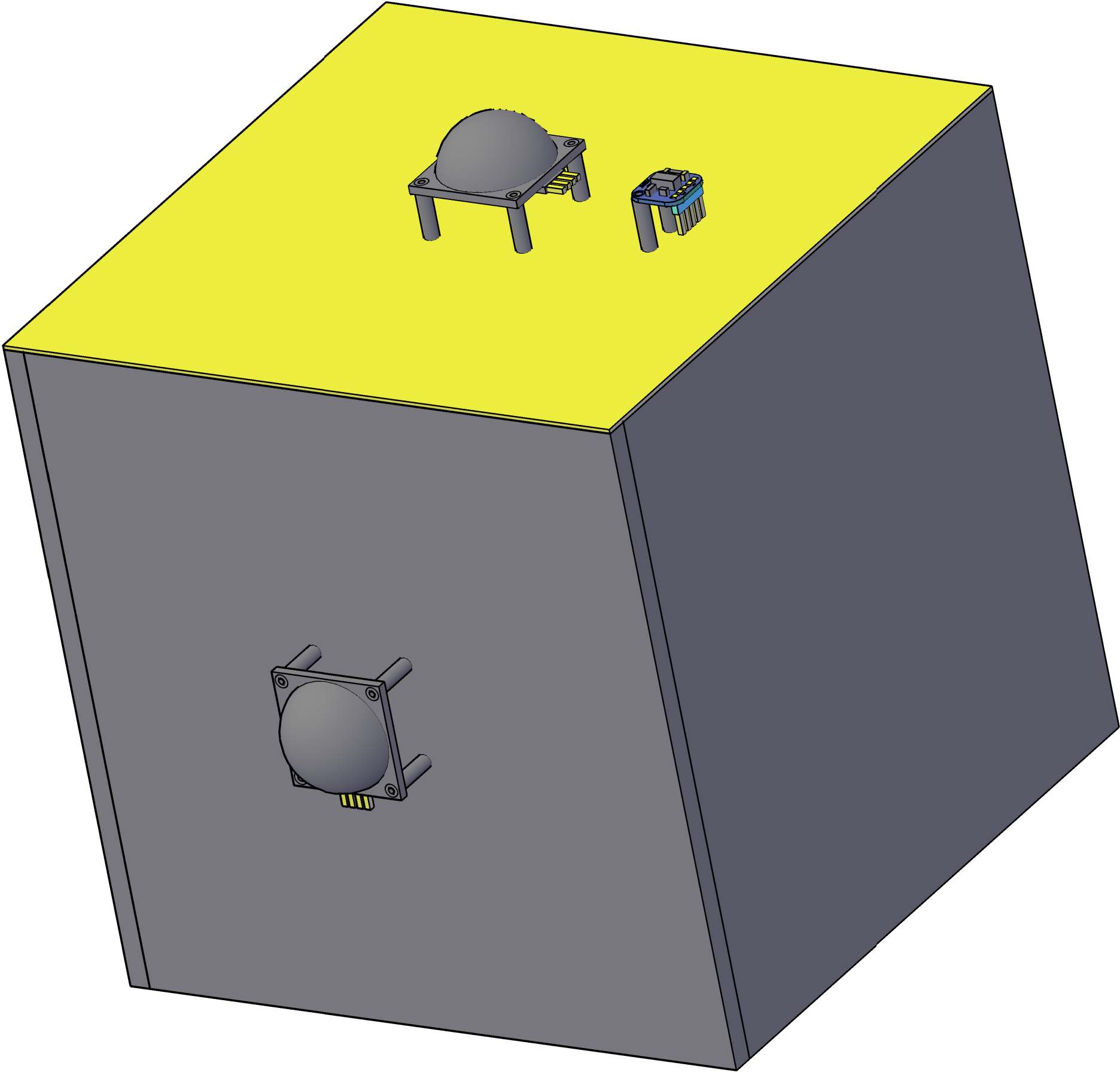
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DATE	DATE	REVISION			BY
<p>TEAM20</p> <p>GROUP PROJECT</p> <p>SMART LIGHT CONTROLLER</p> <p>TITLE PAGE</p>					
ENGINEER			CHECKED BY		
AJAHAM@KJ.UM			PROF. PALMER		
N/A			TM		
SCALE			DATE		
1/20			4/10/2021		
TEAM 20_A01					
SHEET NO.					
1 OF 15					

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SHEET	DRAWING DESCRIPTION	FILENAME
1	TITLE PAGE	TEAM 20_A01
2	TABLE OF CONTENTS	TEAM 20_B01
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4	ENCLOSURE LAYOUT	TEAM 20_B03
5	BREADBOARD LAYOUT	TEAM 20_E01
6	BREAKOUT BOARD LAYOUT	TEAM 20_E02
7	MOTION SENSOR LAYOUT	TEAM 20_E03
8	TOUCH SENSOR LAYOUT	TEAM 20_E04
9	LIGHT SENSOR LAYOUT	TEAM 20_E05
10	MICROCONTROLLER LAYOUT	TEAM 20_E06
11	BREAKOUT BOARD I/O	TEAM 20_E10
12	MOTION SENSOR I/O	TEAM 20_E11
13	TOUCH SENSOR I/O	TEAM 20_E12
14	LIGHT SENSOR I/O	TEAM 20_E13
15	BILL OF MATERIALS	TEAM 20_Y01

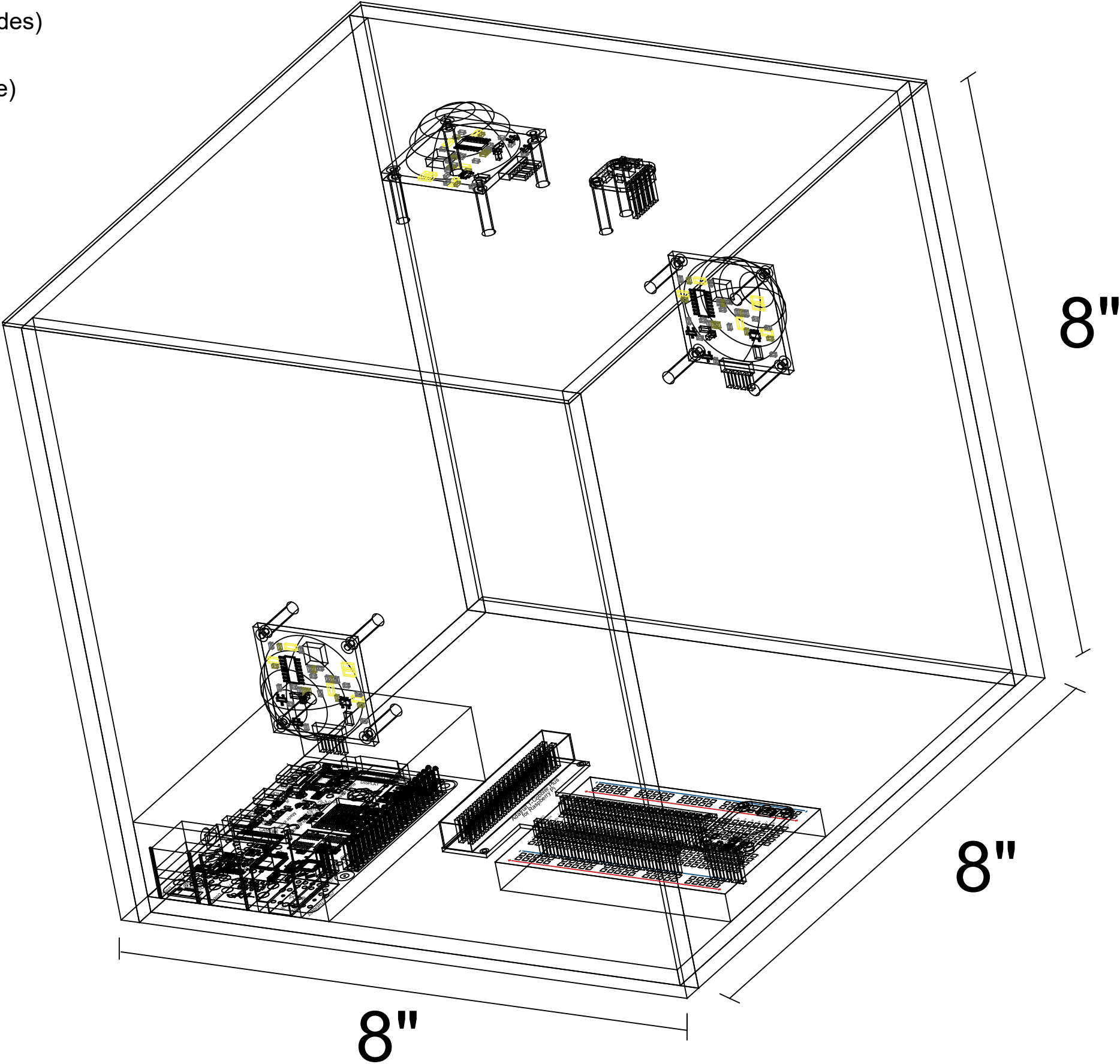

MAIN ENCLOSURE



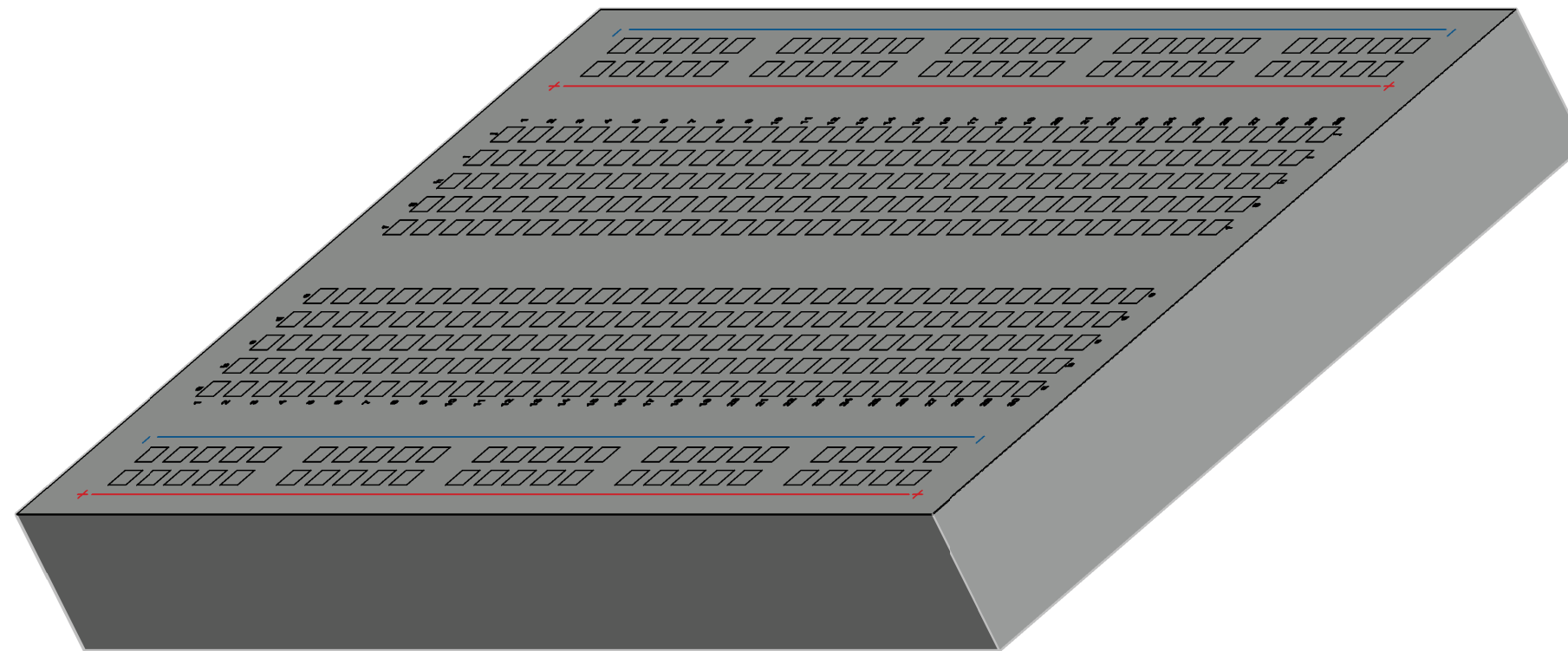
REV	DATE	REVISION	BY
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TEAM20 GROUP PROJECT SMART LIGHT CONTROLLER ENCLOSURE LAYOUT			
DESIGNED BY	ALAN ALAN ALAN	CHECKED BY	PROF. PALMER
DATE	1/1/2021	DATE	1/1/2021
SCALE	N/A	SCALE	N/A
NO SCALE	NO SCALE	DATE	1/1/2021
TEAM 20_B02			
3 of 15			

Enclosure Makeup:

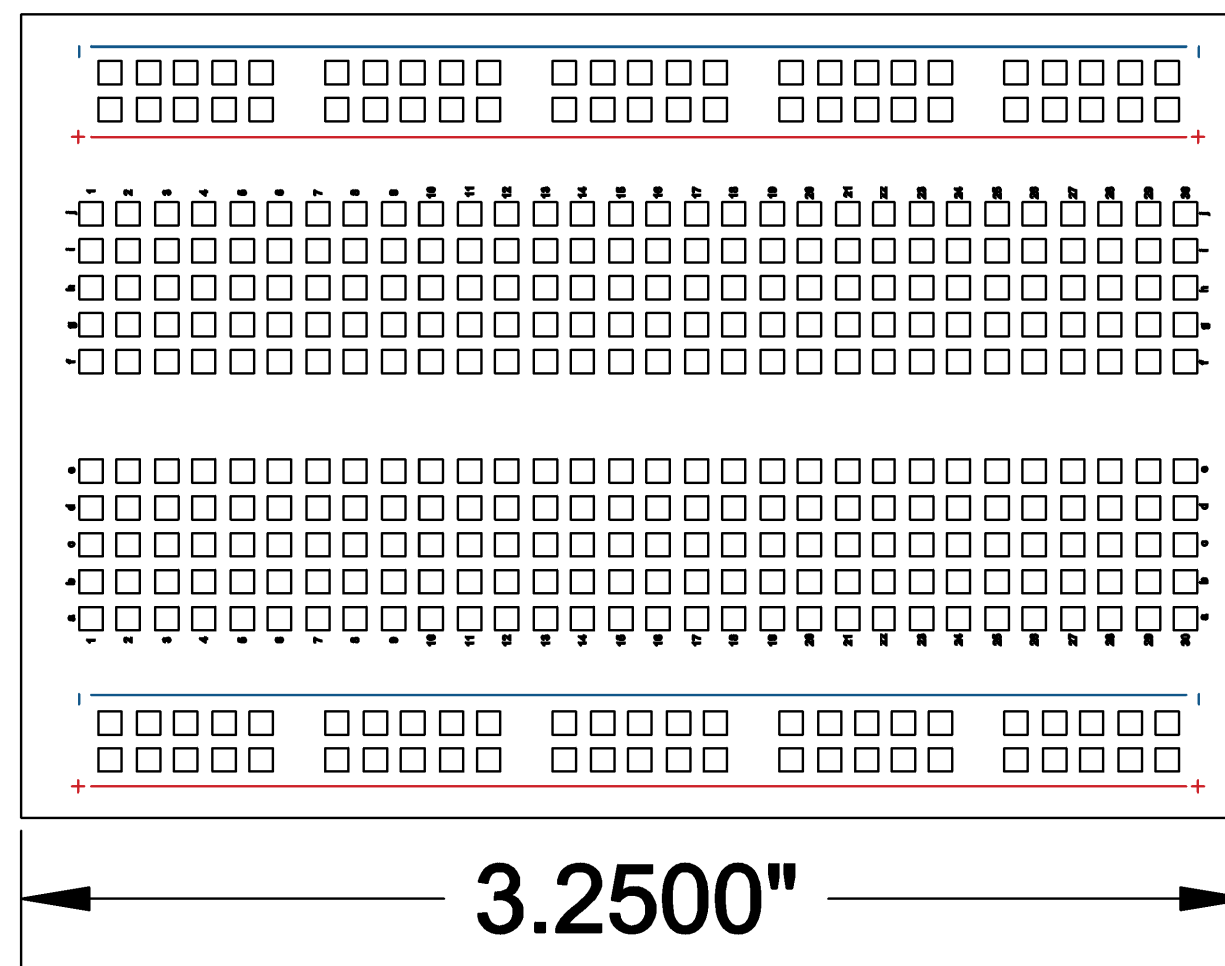
- 4 8"x8"x $\frac{1}{2}$ " black wood boards (sides)
- 1 8"x8"x $\frac{1}{32}$ " metal plate (top)
- 1 7"x7"x $\frac{5}{8}$ " pine wood board (base)
- 16 wood  $1\frac{1}{2}$ " wooden screws




## 400 POINT BREADBOARD



A dimension line with a vertical line and two horizontal end caps. To the right of the vertical line is the fraction  $\frac{3}{8}$  followed by a double quote symbol.



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TEAM20  
GROUP PROJECT  
SMART LIGHT CONTROLLER  
BREADBOARD LAYOUT

DESIGNED BY AAMAM/AM/CM	CHECKED BY BRIAN F. PALMER
DATE 10/1/2021	DATE 4/10/2021
DRAWN BY CM/NO SCALE	

TEAM 20\_E01  
SHEET NO  
5 OF 15

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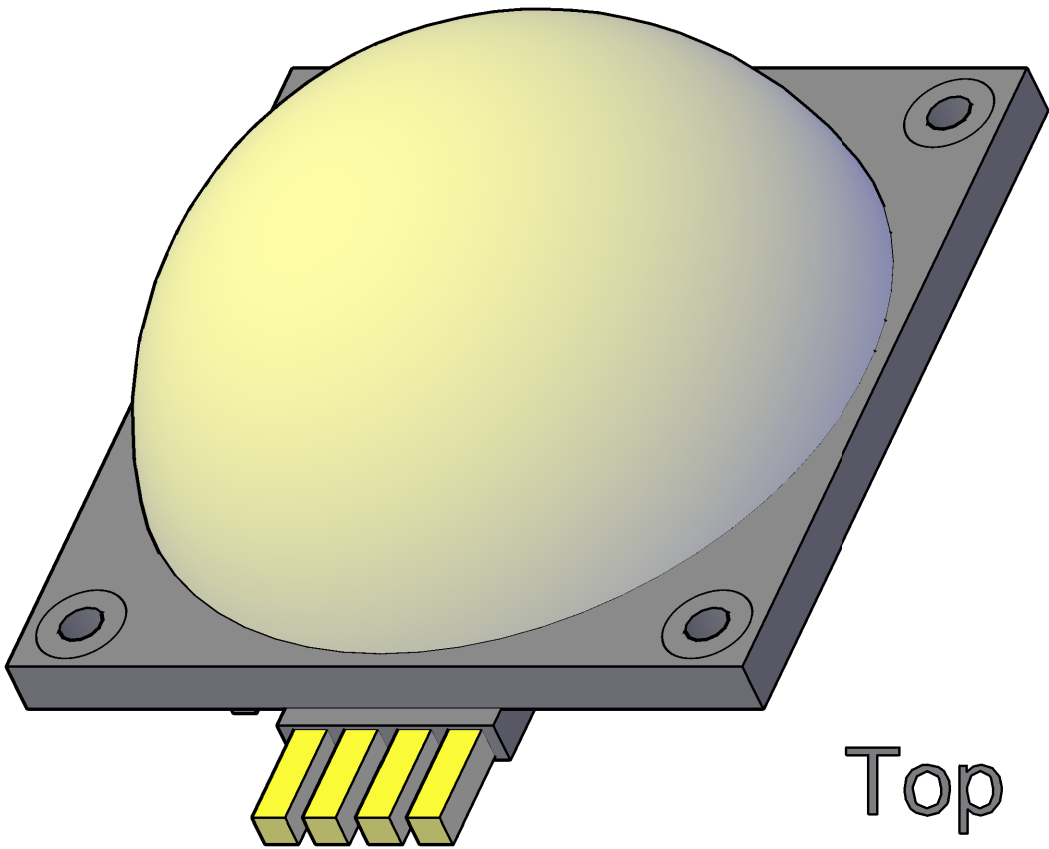
Height without pins: 0.4"



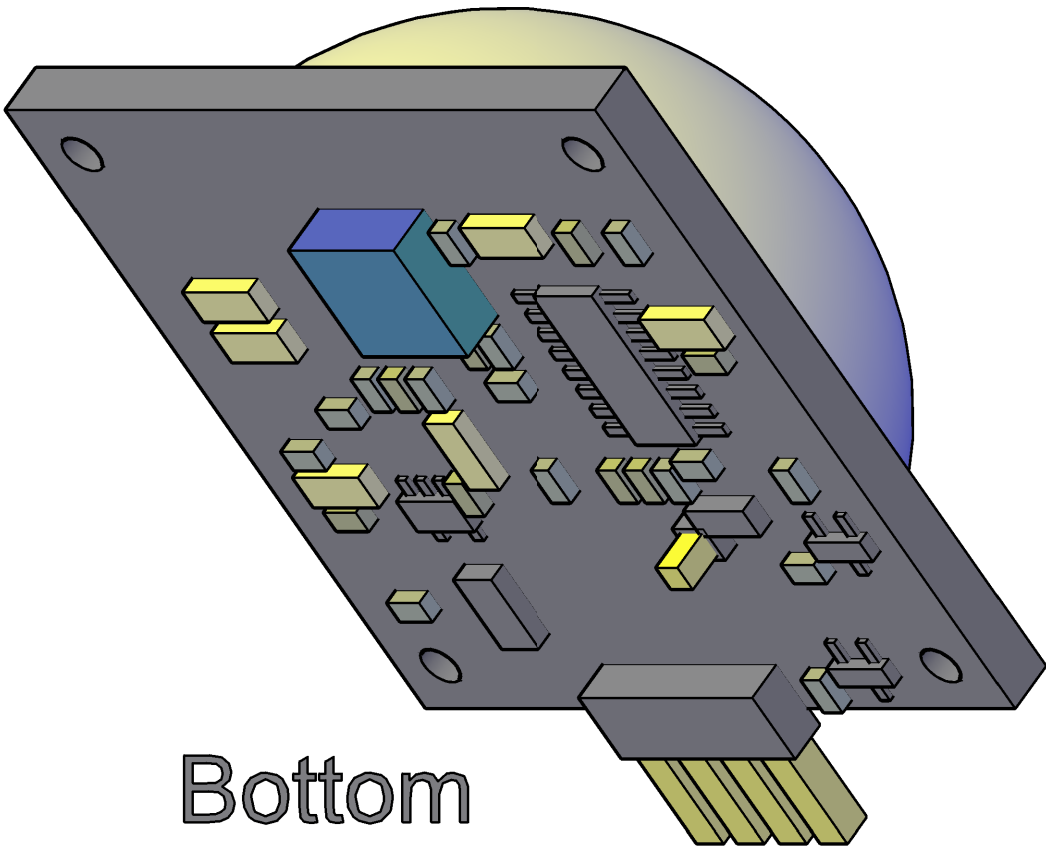
TEAM20  
GROUP PROJECT  
SMART LIGHT CONTROLLER  
BREAKOUT BOARD LAYOUT

TEAM 20\_E02

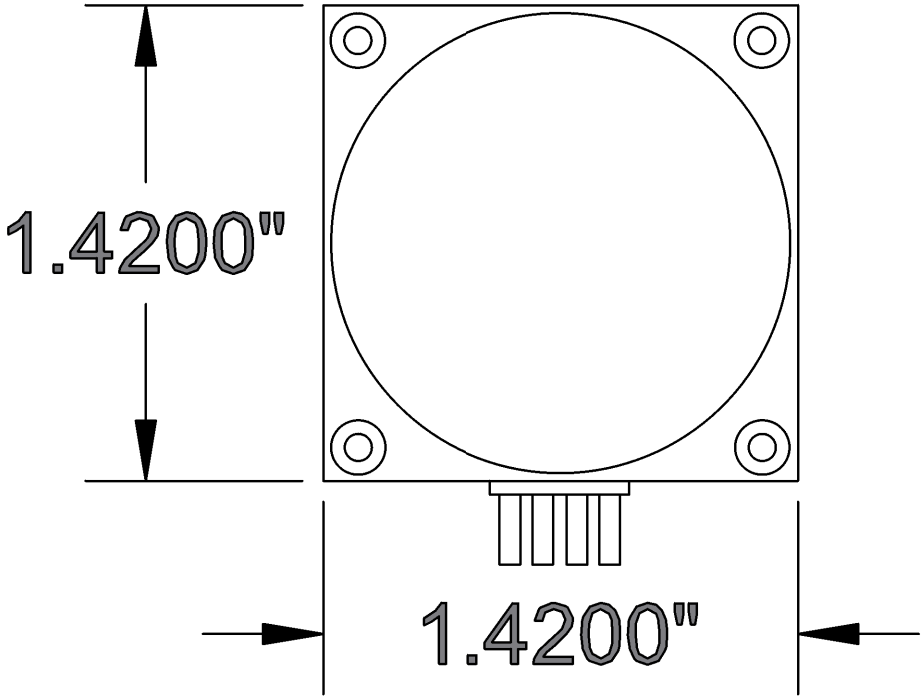
# MOTION SENSOR



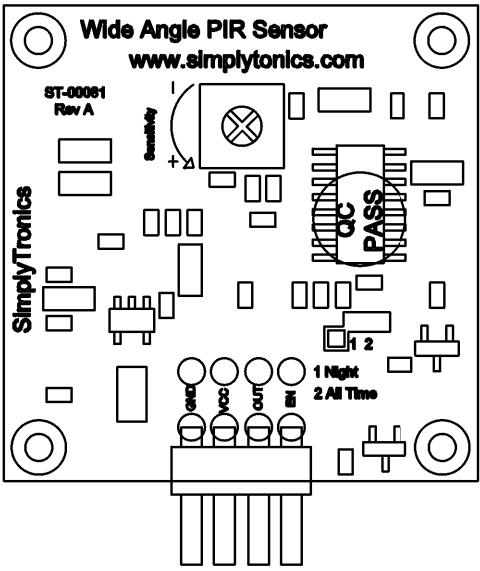
Top



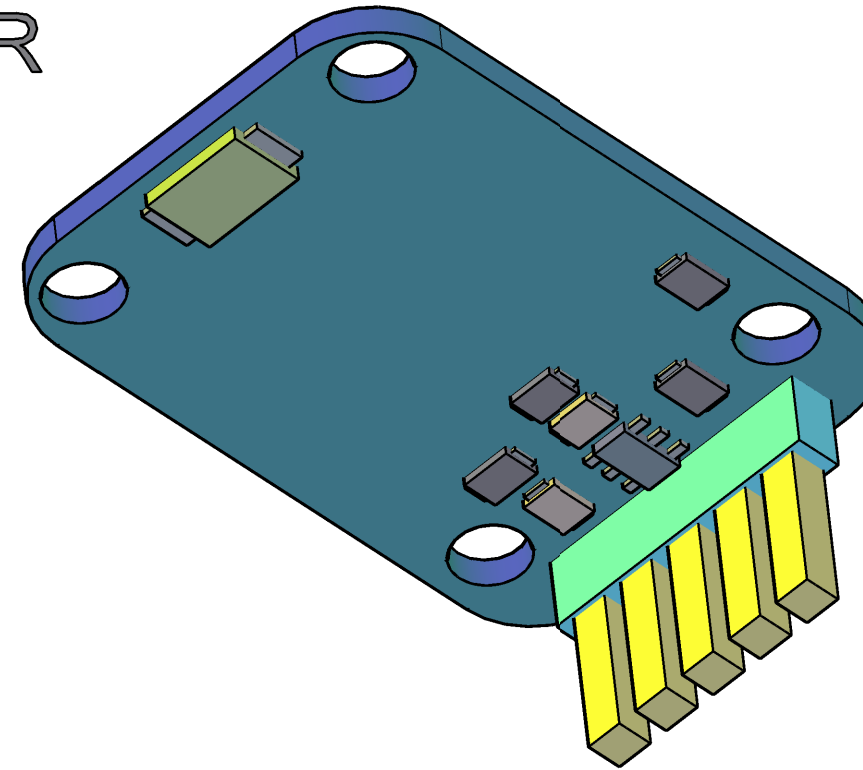
Bottom



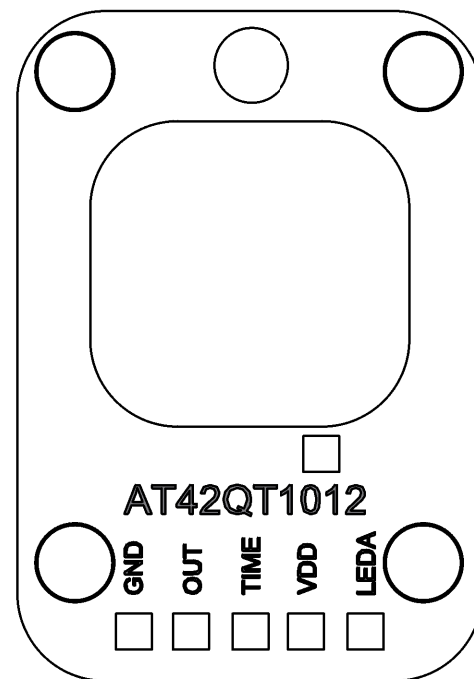
Height: 0.79"



## A 3D perspective view of the AT42QT1012 digital inclinometer module. The module has a blue PCB with a central square sensor area. It features four mounting holes at the corners. On the left side, there are five yellow pins labeled GND, OUT, TIME, VDD, and LEDA. The text 'AT42QT1012' is printed on the PCB.



A vertical number line is shown. In the center is the number 1500. Above it, an upward-pointing arrow leads to a horizontal line. Below it, a downward-pointing arrow leads to another horizontal line.



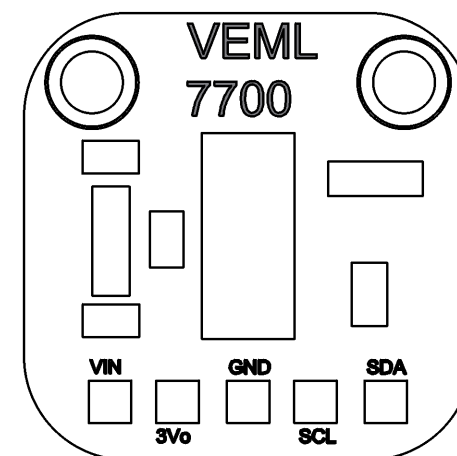
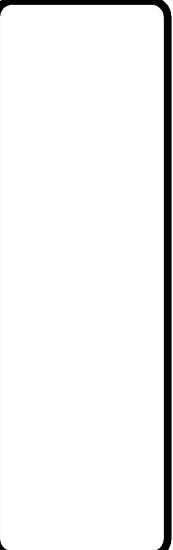
HEIGHT WITHOUT  
PINS:  $\frac{1}{16}$ "

HEIGHT WITH  
PINS:  $\frac{7}{16}$ "

8 OF 15



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DATE \_\_\_\_\_ DRAWING NO. \_\_\_\_\_ BY \_\_\_\_\_

TEAM20  
GROUP PROJECT  
**MART LIGHT CONTROLLED**  
**LIGHT SENSOR LAYOUT**

DRAWN BY	CHECKED BY
AAANJALGJIN	PATEL, PRADEEP
JOB NO.	UNEN
N/A	DATE
SCALE	DATE 6/10/2021
NO SCALE	
DWG NO.	

**TEAM 20\_E05**

9 OF 15

Journal Pre-proof



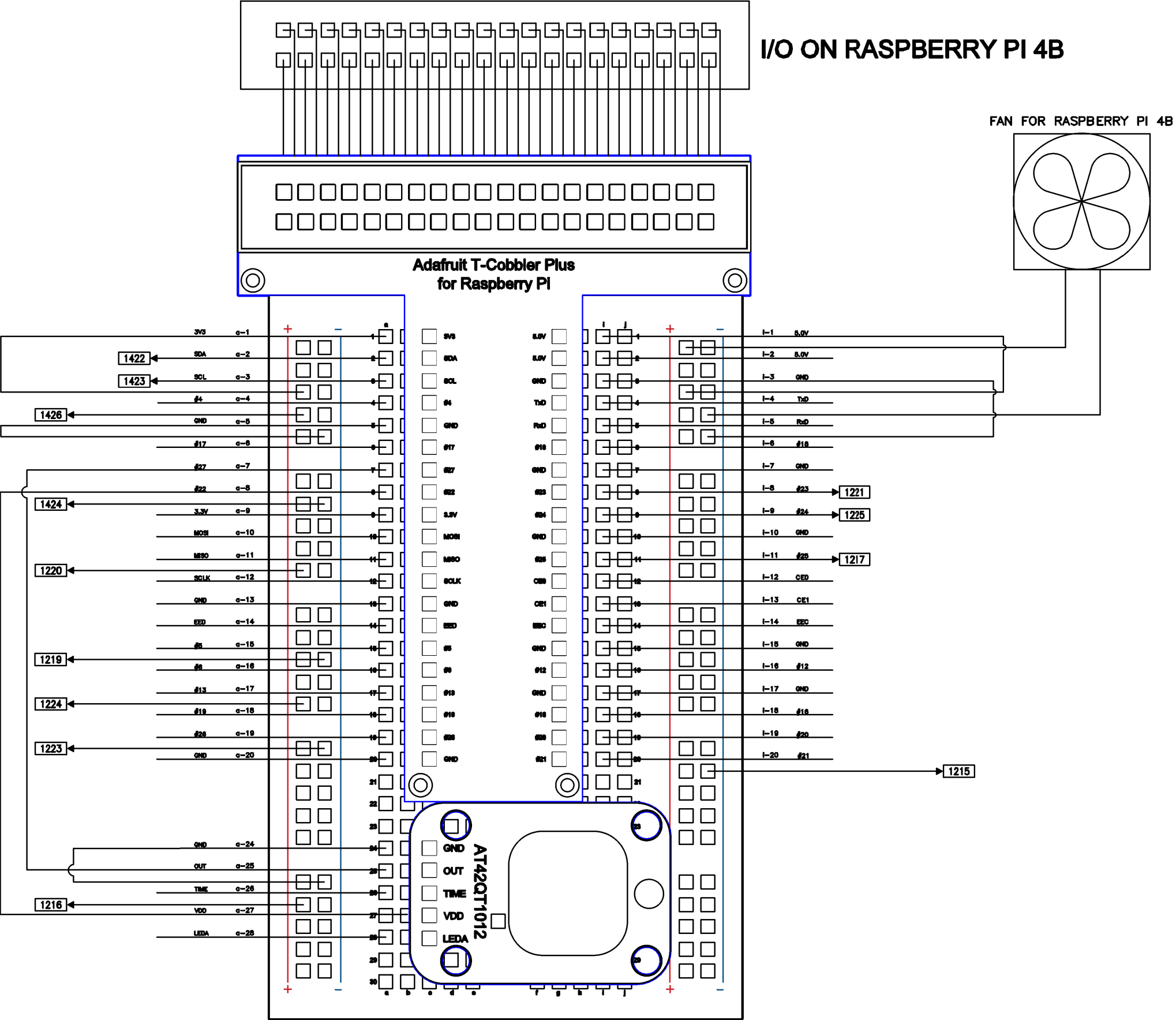
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12.	TIME		

**TEAM20**  
**GROUP PROJECT**  
**MART LIGHT CONTROLLER**  
**MICROCONTROLLER LAYOUT**

DESIGNED BY PROF. PHILMER	DESIGNED BY PHILMER
DATE 4/10/2021	DATE 4/10/2021

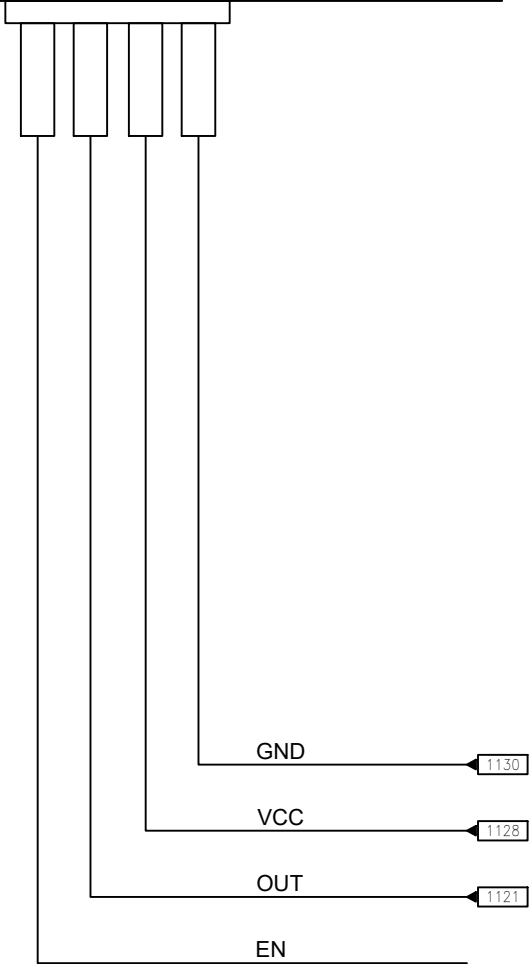
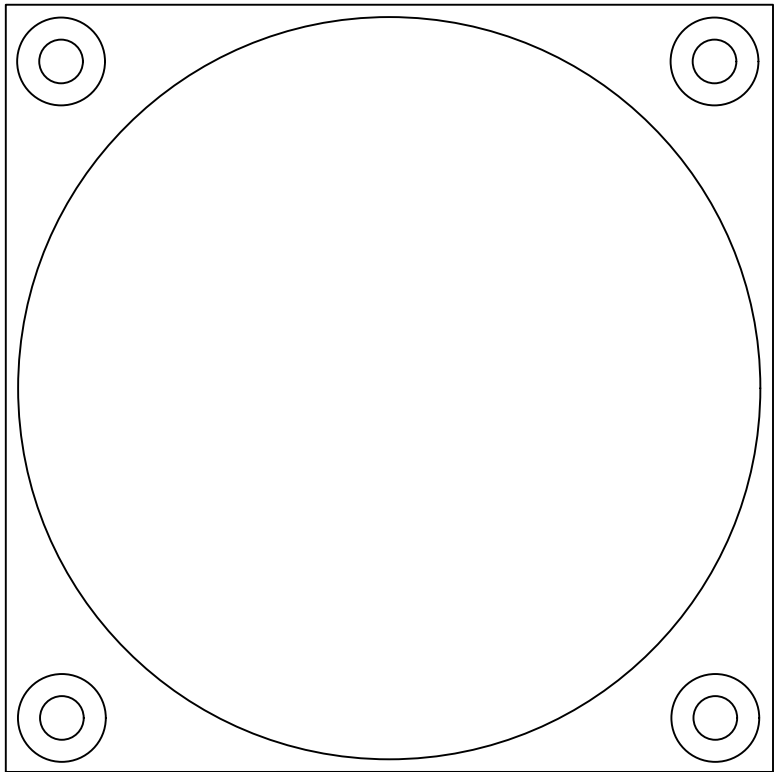
**TEAM 20\_E06**  
**10 OF 15**

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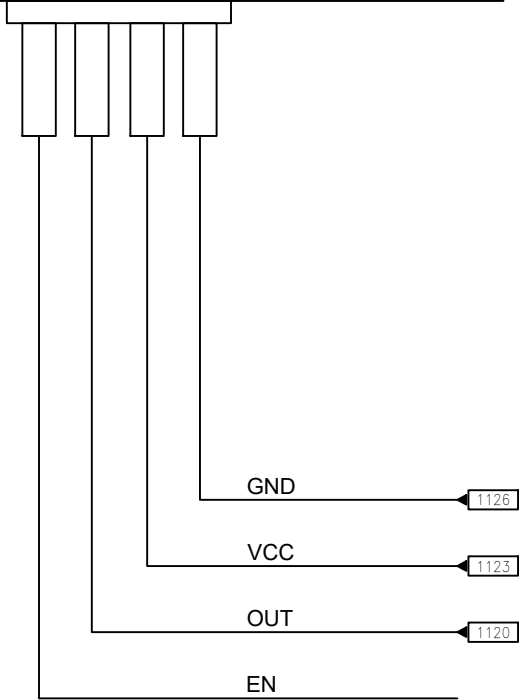
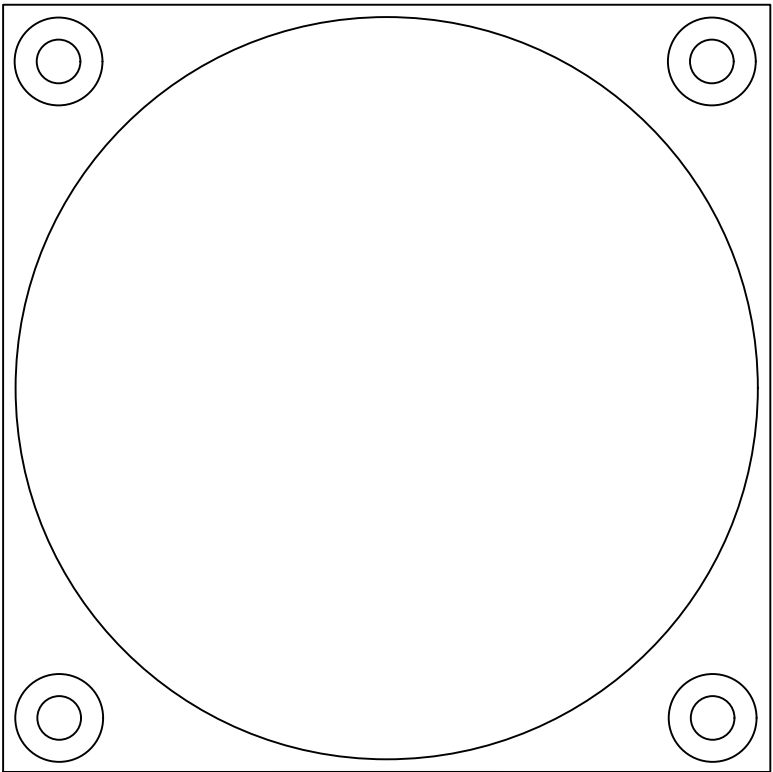


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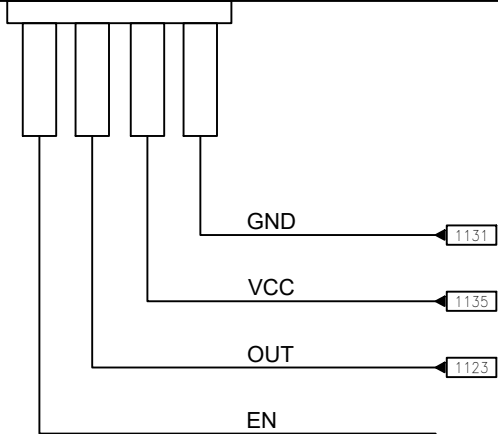
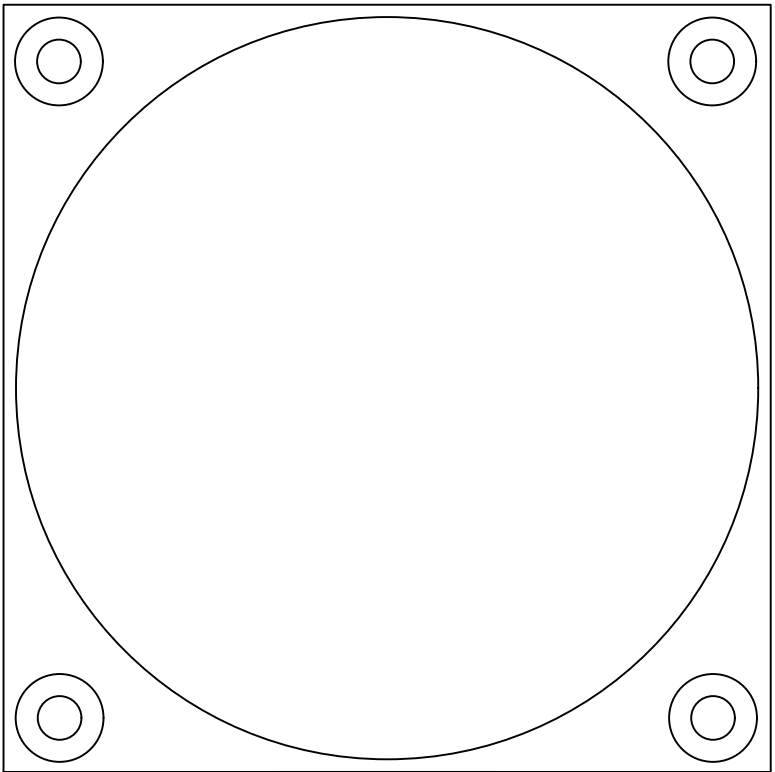
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MS2

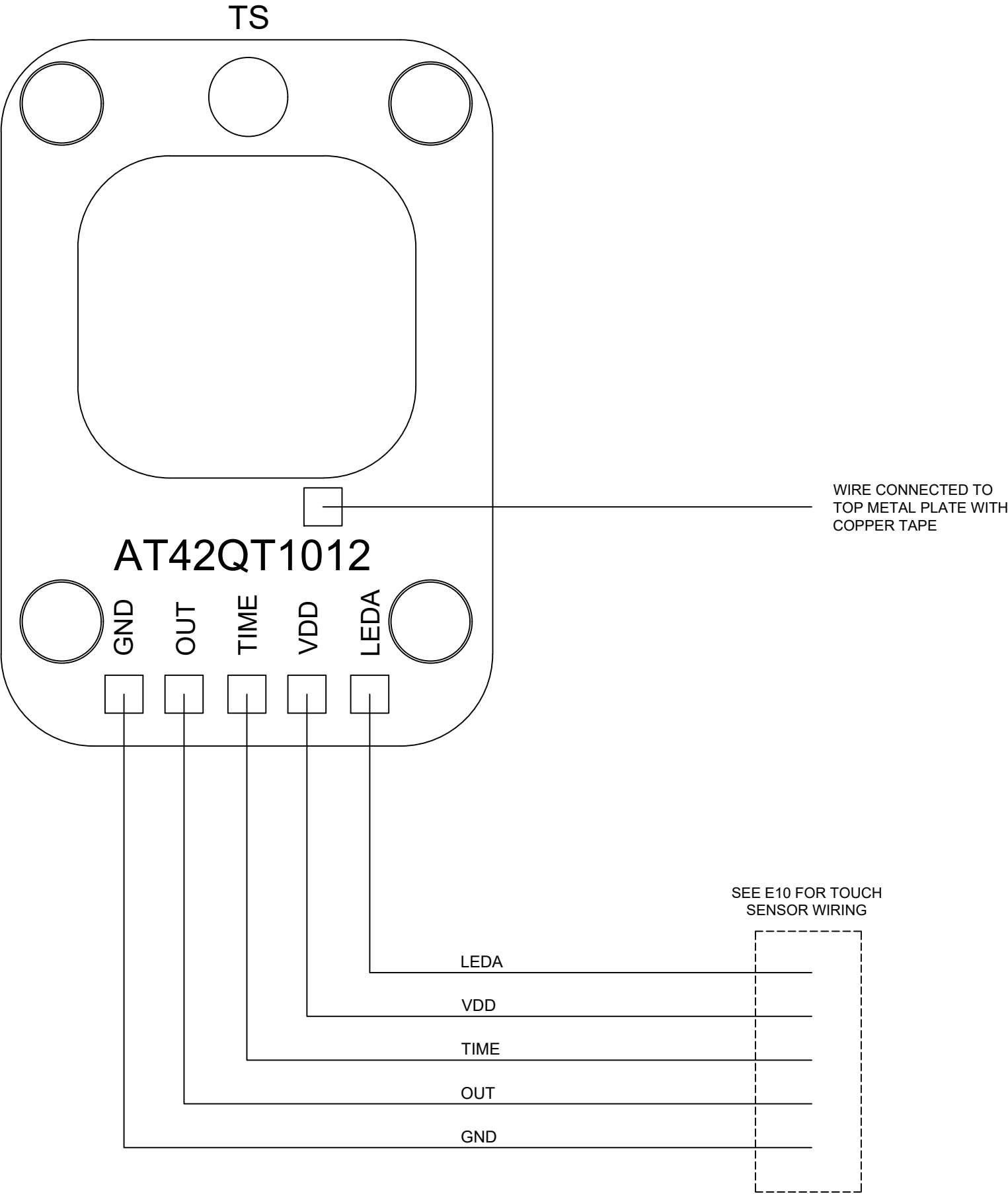


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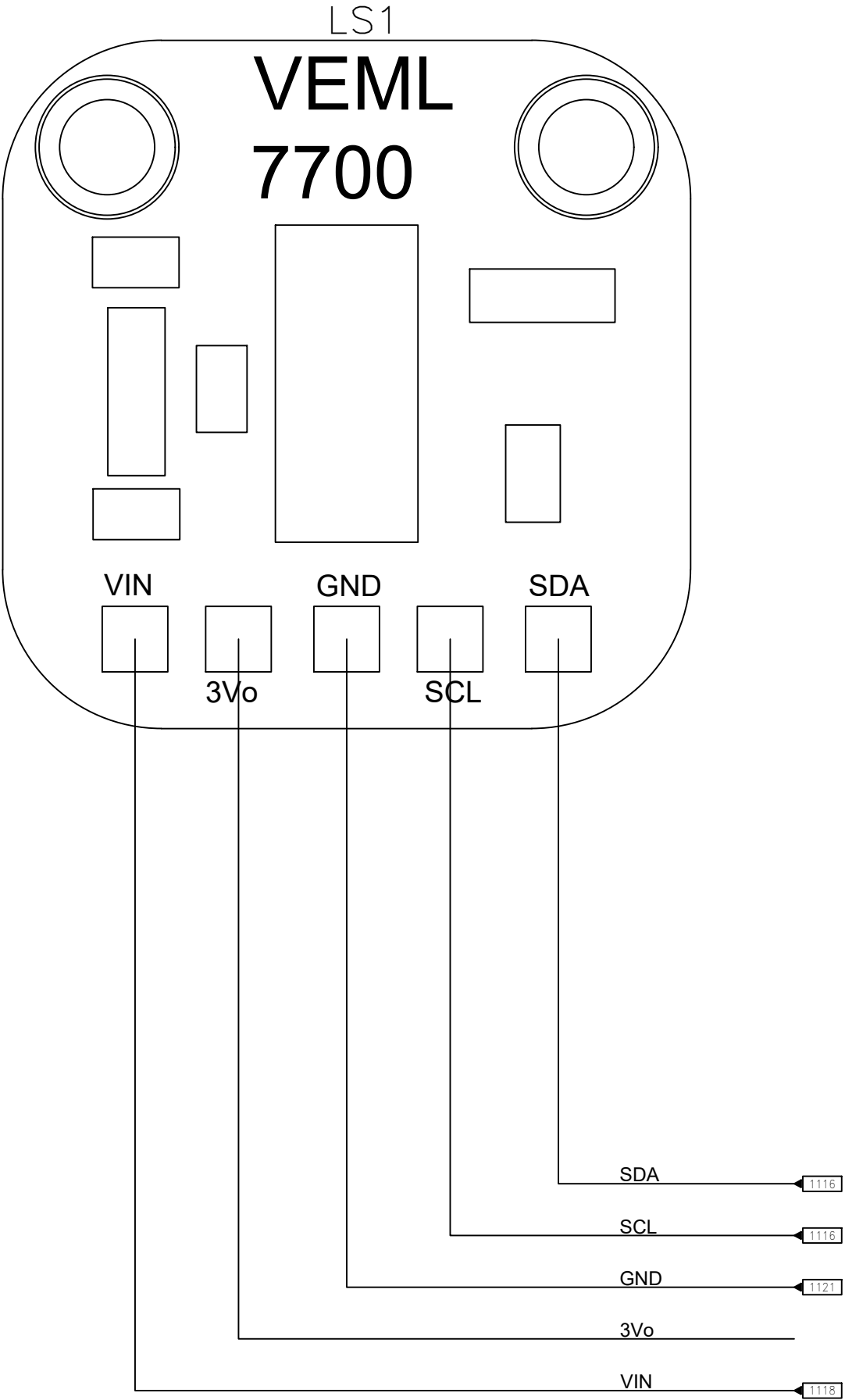
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REV	DATE	REVISION	BY	
TEAM20				
GROUP PROJECT				
SMART LIGHT CONTROLLER				
LIGHT SENSOR I/O				
ENGINEER	CHECKED BY			
ALANAMASHI, TM	PROF. PALMER			
JOB NO	DESIGNED BY			
N/A	TM			
SCALE	DATE			
NO SCALE	4/10/2021			
DWG NO				
TEAM 20_E13				

ELECTRICAL BOM

Electrical							
Detail #	QTY	Part Number	Description	Vendor	Cost per unit	Cost	Notes
1	1		RASPBERRY PI 4B		\$35.00	\$35.00	GROUP PURCHASED
2	1		POWER ADAPTER		\$7.95	\$7.95	COLLEGE PURCHASED
3	3	28032-ND	MOTION SENSOR	DIGIKEY	\$12.99	\$38.97	GROUP PURCHASED
4	2	1528-2891-ND	LIGHT SENSOR	DIGIKEY	\$4.95	\$9.90	COLLEGE PURCHASED
5	2	1528-1810-ND	TOUCH SENSOR	DIGIKEY	\$5.95	\$11.90	COLLEGE PURCHASED
6	1	929002335101	SMART BULB	PHILLIPS HUE	\$19.99	\$19.99	COLLEGE PURCHASED
7	1		DEVICE HOUSING		\$30.00	\$30.00	COLLEGE PURCHASED
8	1	BC19675	MICROCONTROLLER WIRELESS NETWORK INTERFACE CARD	AMAZON	\$9.95	\$9.95	COLLEGE PURCHASED
9	1	AU-EL-CK-003	ELECTRONICS KIT	AMAZON	\$17.99	\$17.99	GROUP PURCHASED
10	1	B07VX2WDHM	MIUZEI CASE KIT	AMAZON	\$18.99	\$18.99	GROUP PURCHASED
11	1	2028	PI T-COBBLER PLUS BREAKOUT BOARD	ADAFRUIT	\$7.95	\$7.95	COLLEGE PURCHASED
12	1	954	SERIAL CONSOLE DEBUG CABLE	ADAFRUIT	\$9.95	\$9.95	COLLEGE PURCHASED
13	1		WIRELESS MOUSE		\$14.88	\$14.88	GROUP PURCHASED
14	1		USB KEYBOARD		\$10.88	\$10.88	GROUP PURCHASED
15	1	OFC00006	COPPER FOIL TAPE	AMAZON	\$6.98	\$6.98	GROUP PURCHASED
16	1	45245	BLUETOOTH ZIGBEE EMULATOR	AMAZON	\$24.76	\$24.76	GROUP PURCHASED
17	1	M2	NYLON HEX SPACERS/SCREWS/NUTS ASSORTED MOUNTING KIT	AMAZON	\$13.88	\$13.88	GROUP PURCHASED
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