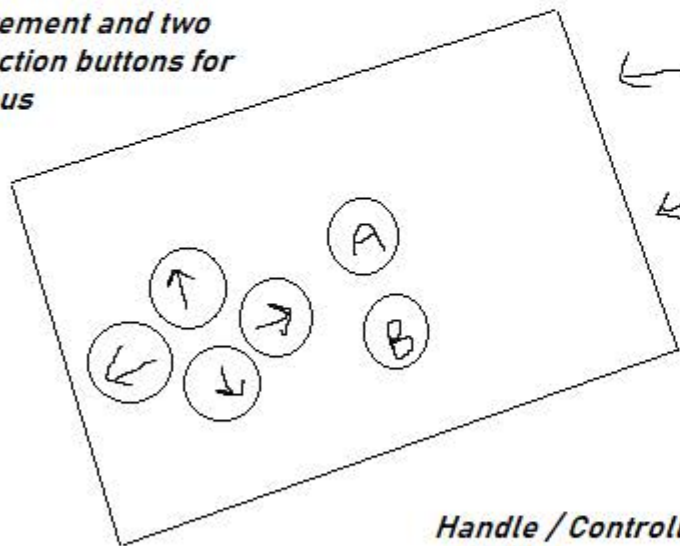


*Controller with
movement and two
selection buttons for
menus*

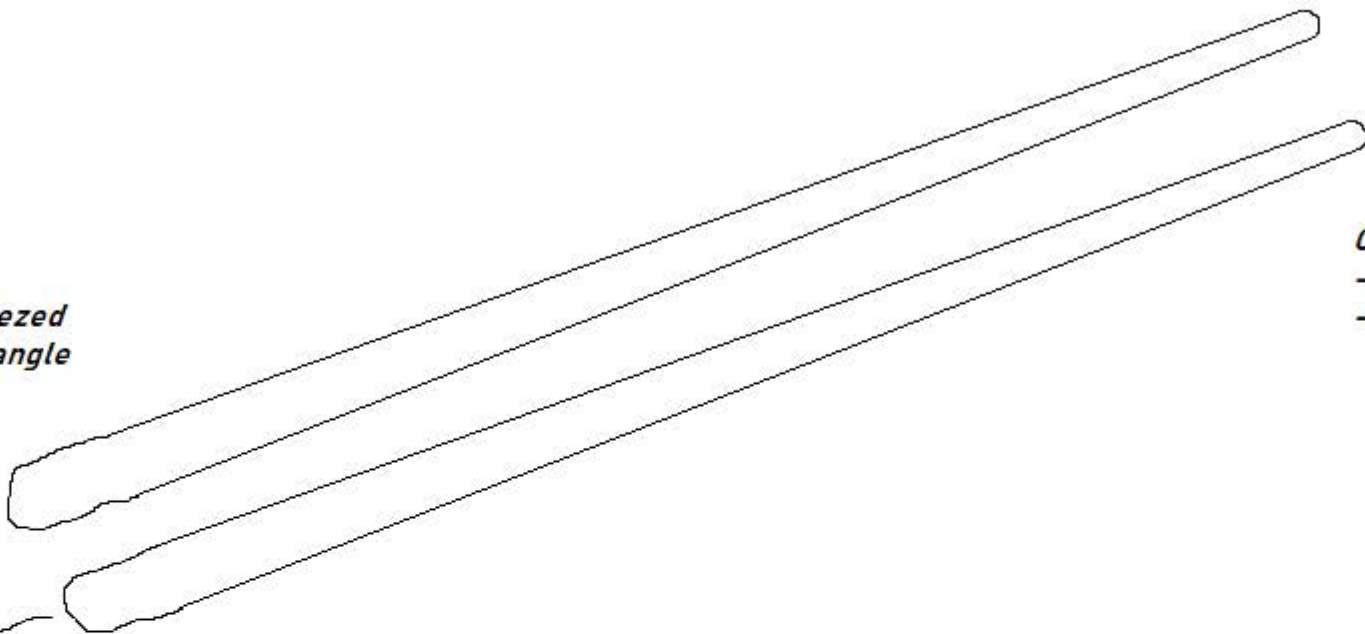


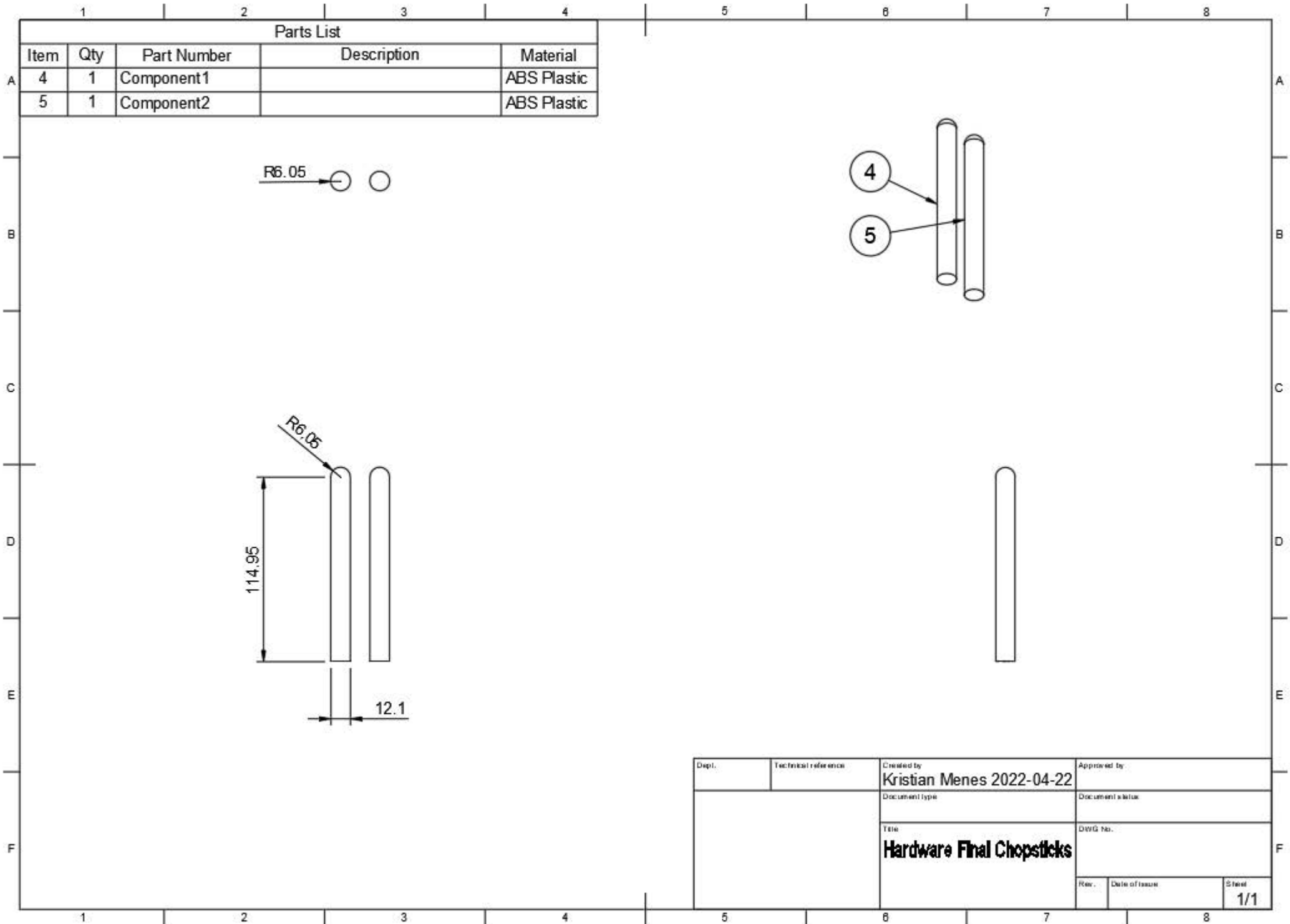
*Chopsticks squeezed
into rubber rectangle*

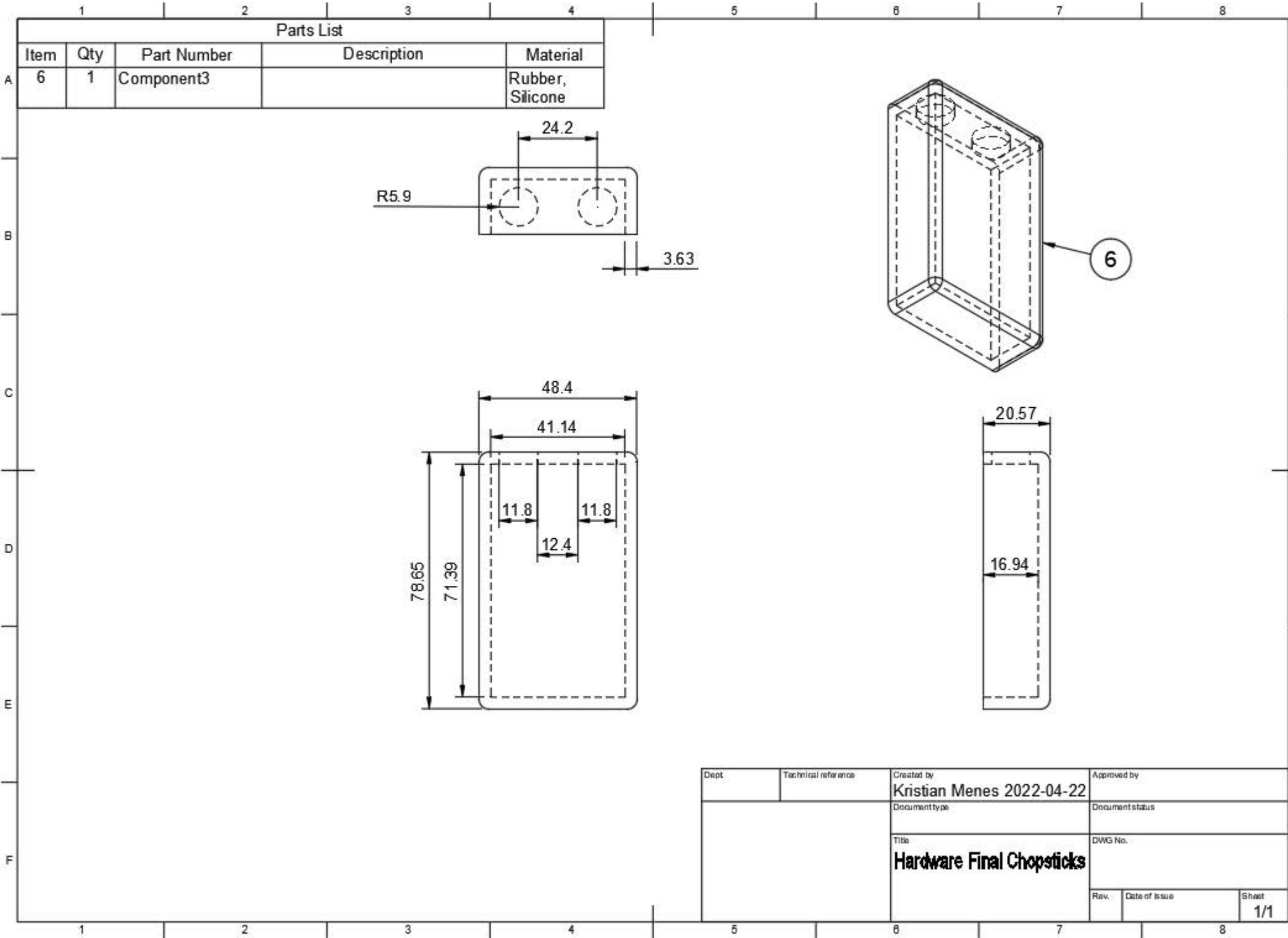


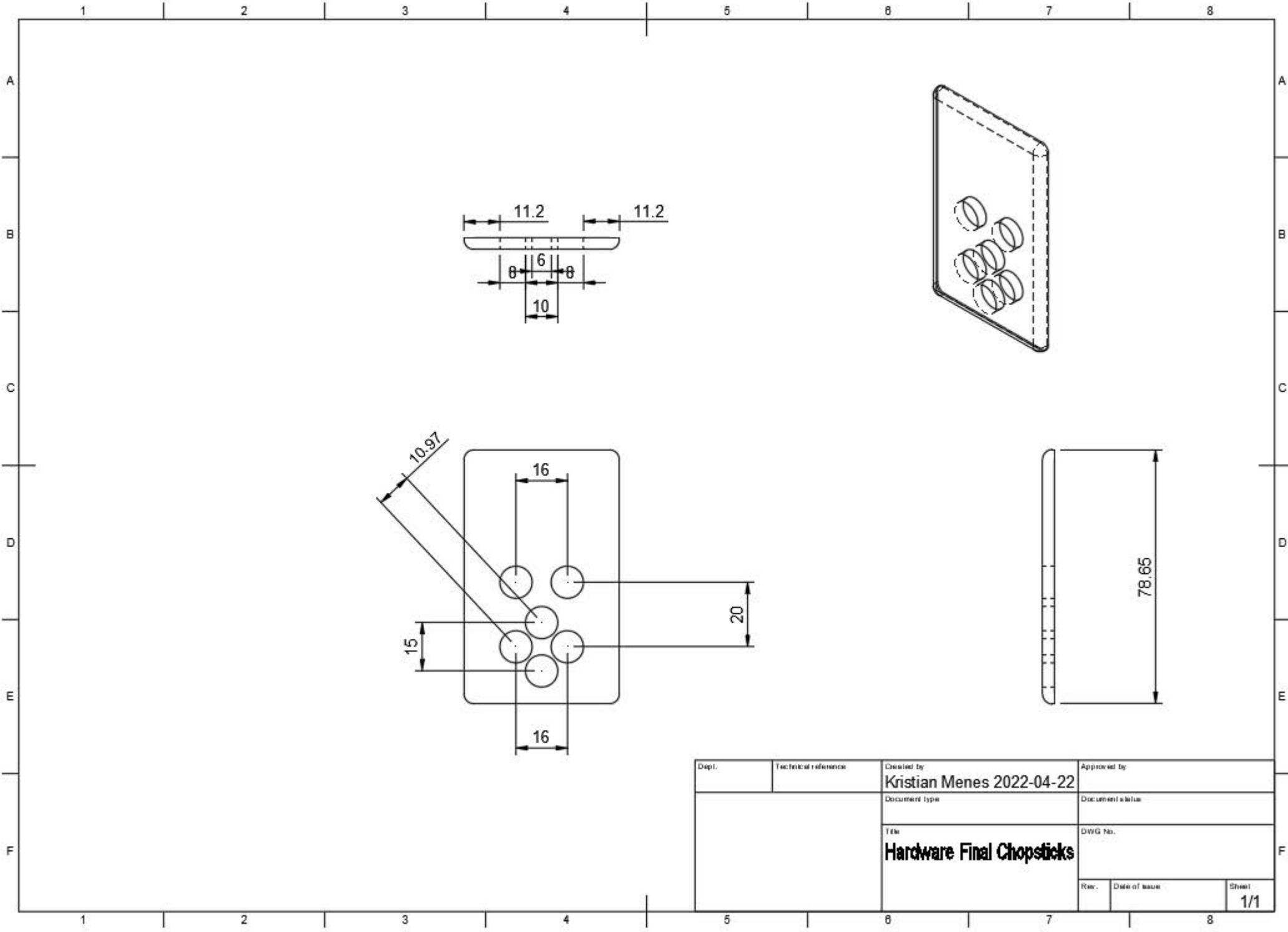
Handle / Controller?
- Rubber
- Allow for chopstick movement
- Sensor to detect pressure
- Houses buttons for selection
- acts as a handle (sort of)

Chopsticks
- similar to IRL
- sensors to detect pressure









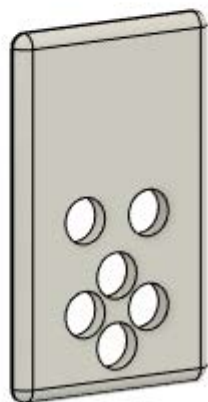
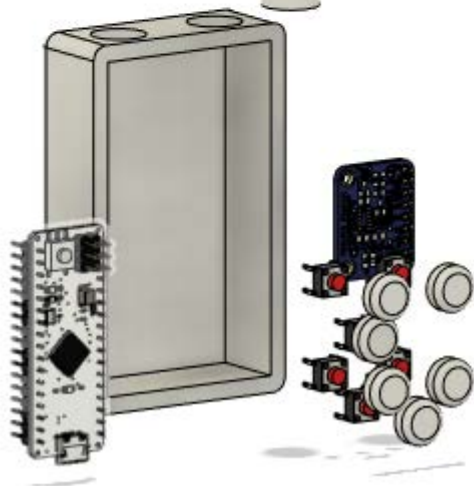
Dept.	Technical reference	Created by Kristian Menes 2022-04-22	Approved by
		Document type	Document status
		Title Hardware Final Chopsticks	DWG No.
		Rev.	Date of issue
		Sheet 1/1	

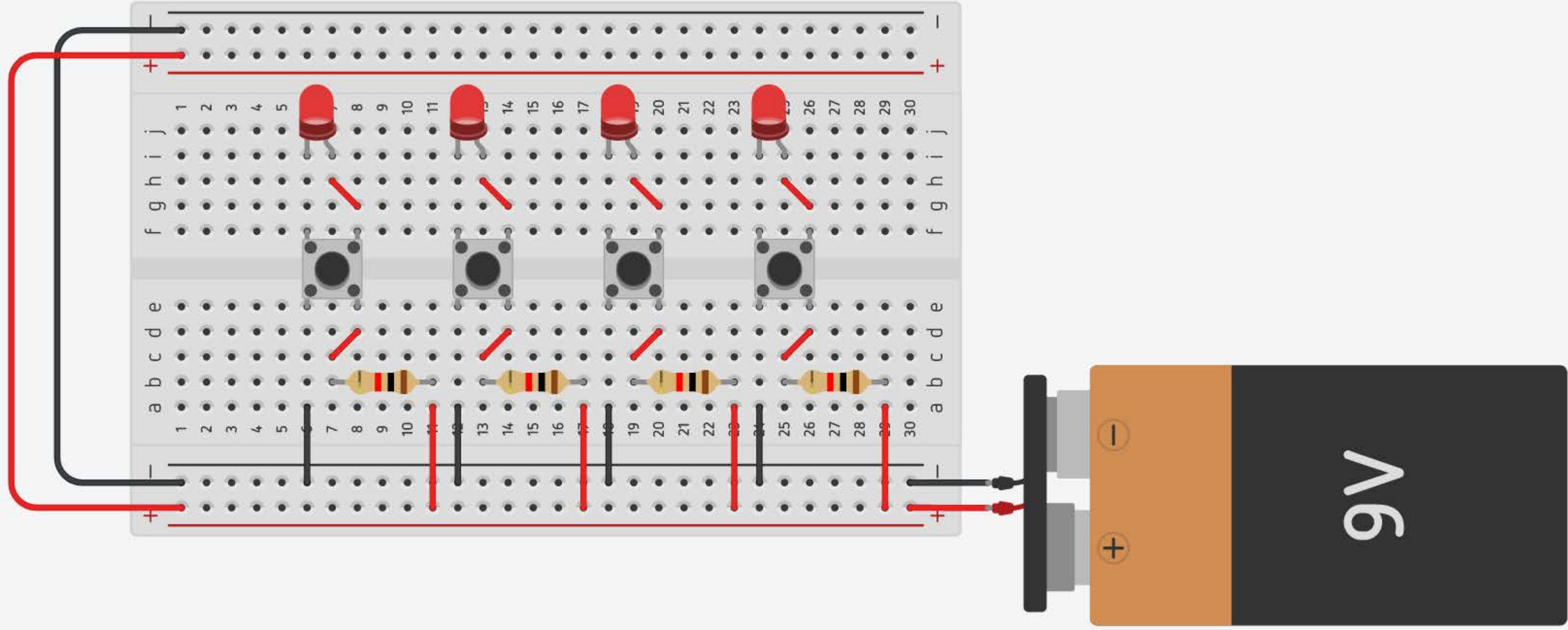
	1	2	3	4	5	6	7	8
	Parts List							
	Item	Qty	Part Number	Description	Material			
A	1	1	Component6		ABS Plastic			
	2	1	Component5		ABS Plastic			
	3	1	Component10		ABS Plastic			
B	4	1	Component9		ABS Plastic			
	5	1	Component11		ABS Plastic			
	6	1	Component4		Rubber, Silicone			
	7	1	Component3		Rubber, Silicone			
	8	1	Component2		ABS Plastic			
	9	1	Component1		ABS Plastic			
C	10	1	ADXL345 Digital Accelerometer					
	11	1	ArduinoMicro		Steel			
	12	1	Component8		ABS Plastic			
	13	1	Component7		ABS Plastic			
	14	6	Button_red		Steel			
D								
E								
F								

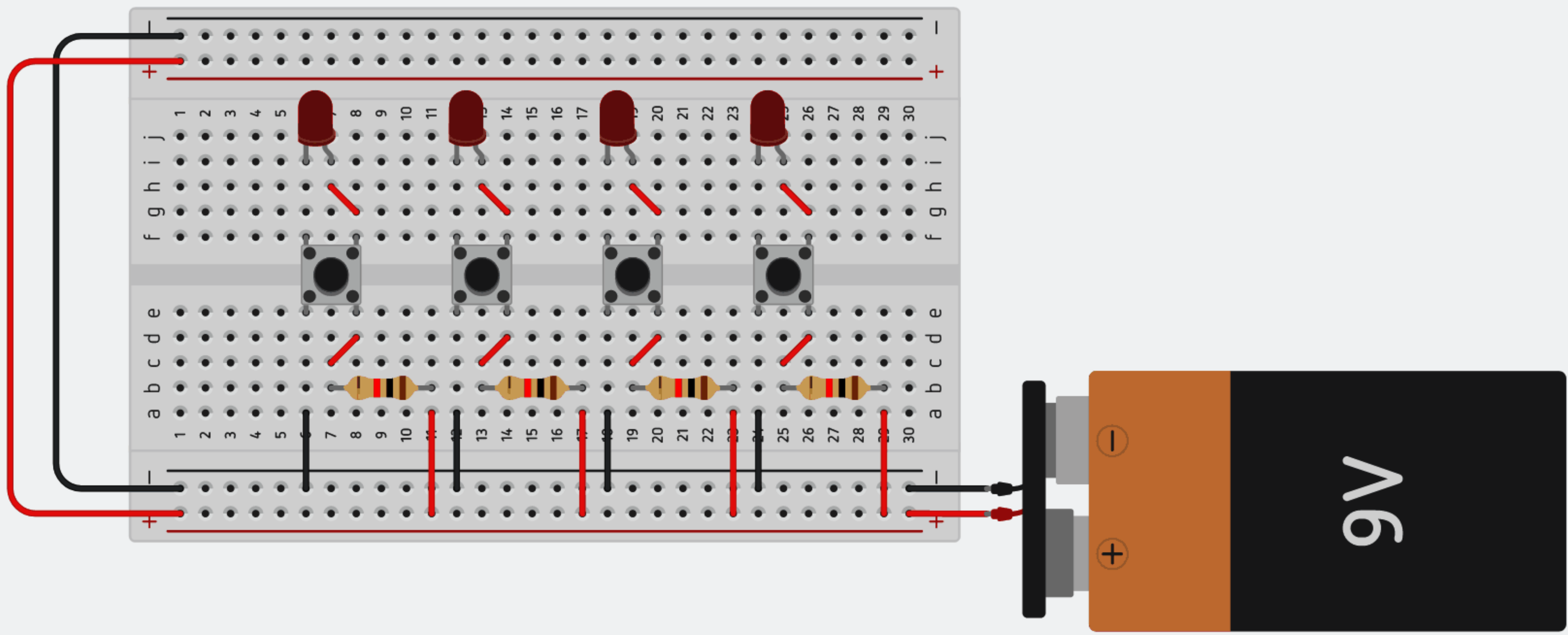
Technical drawing of a chopstick holder assembly. The drawing includes a top view, a side view, and a front view. The top view shows a rectangular base with two vertical slots and a central circular feature. The side view shows the base with a height of 20.57 and a width of 24.2. The front view shows the base with a height of 78.65 and a width of 48.4. The drawing is labeled with 1 through 14, corresponding to the parts list. Dimensions are given in millimeters. The drawing is titled 'Hardware Final Chopsticks'.

Dept.	Technical reference	Created by Kristian Menes 2022-04-22	Approved by	
		Document type	Document status	
		Title Hardware Final Chopsticks		DWG No.
		Rev.	Date of issue	Sheet 1/1









▼ Printer

1.750

Filament diameter

0.400

Nozzle diameter

1

-

+

Number of extruders

200.000

-

+

Bed X size

200.000

-

+

Bed Y size

Bed center is (0,0)

▼ Control

0

-

+

Start at GCode line

10.000

Step (mm)

Reset

Clear below

Pause

Auto pause

☒ Show trajectory

☐ Show overlaps and overhangs (?)

☒ Automatic deposition height & width (?)

▼ Status

38633

-

+


GCode line

0.400


235.00

10.000

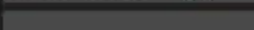
XYZ (mm)



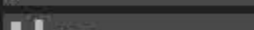
Flow (mm³/sec)



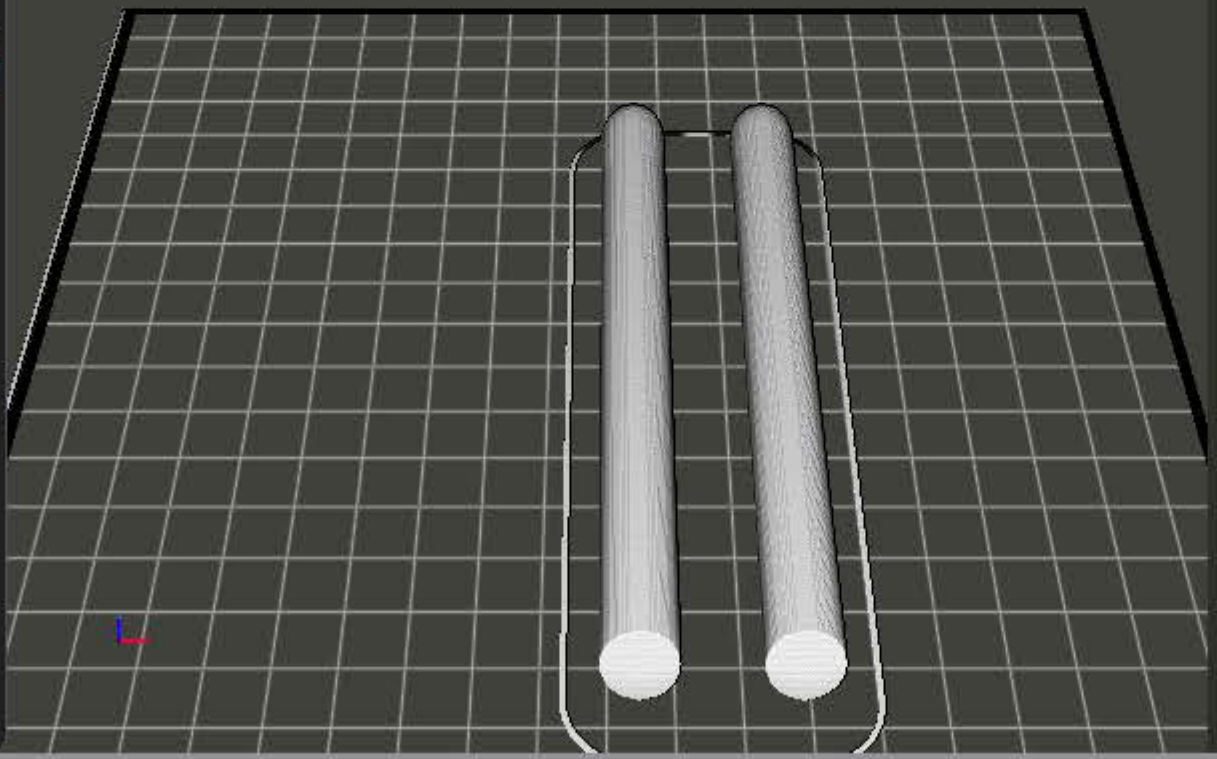
Speed (mm/sec)



dangling (red)



overlaps (blue)



```
1 ;FLAVOR:Marlin
2 ;TIME:6872
3 ;Filament used: 4.74985m
4 ;Layer height: 0.2
5 ;MINX:93.587
6 ;MINY:24.4
7 ;MINZ:0.2
8 ;MAXX:141.306
9 ;MAXY:162.099
10 ;MAXZ:12
11 ;Generated with Cura_SteamEngine 4.13.1
12 M140 S50
13 M105
14 M190 S50
15 M104 S200
16 M105
17 M109 S200
18 M82 ;absolute extrusion mode
19 ; Ender 3 Custom Start G-code
20 G92 E0 ; Reset Extruder
21 G28 ; Home all axes
22 G1 Z2.0 F3000 ; Move Z Axis up little to prevent
23 G1 X0.1 Y20 Z0.3 F5000.0 ; Move to start position
24 G1 X0.1 Y200.0 Z0.3 F1500.0 E15 ; Draw the first
25 G1 X0.4 Y200.0 Z0.3 F5000.0 ; Move to side a little
26 G1 X0.4 Y20 Z0.3 F1500.0 E30 ; Draw the second line
27 G92 E0 ; Reset Extruder
28 G1 Z2.0 F3000 ; Move Z Axis up little to prevent
29 G1 X5 Y20 Z0.3 F5000.0 ; Move over to prevent block
30 G92 E0
31 G92 E0
32 G1 F2700 E-5
33 ;LAYER_COUNT:61
34 ;LAYER:0
35 M107
36 G0 F6000 X94.287 Y31.573 Z0.2
37
```


▼ Printer

1.750

Filament diameter

0.400

Nozzle diameter

1

-

+

Number of extruders

200,000

-

+

Bed X size

200,000

-

+

Bed Y size

Bed center is (0,0)

▼ Control

0

-

+

Start at GCode line

10

000

Step (mm)

Reset

Clear below

Pause

Auto pause

☒ Show trajectory

☐ Show overlaps and overhangs (?)

☒ Automatic deposition height & width (?)

▼ Status

20329

-

+


GCode line

0.400


235.00

10.000


XYZ (mm)




Flow (mm^3/sec)



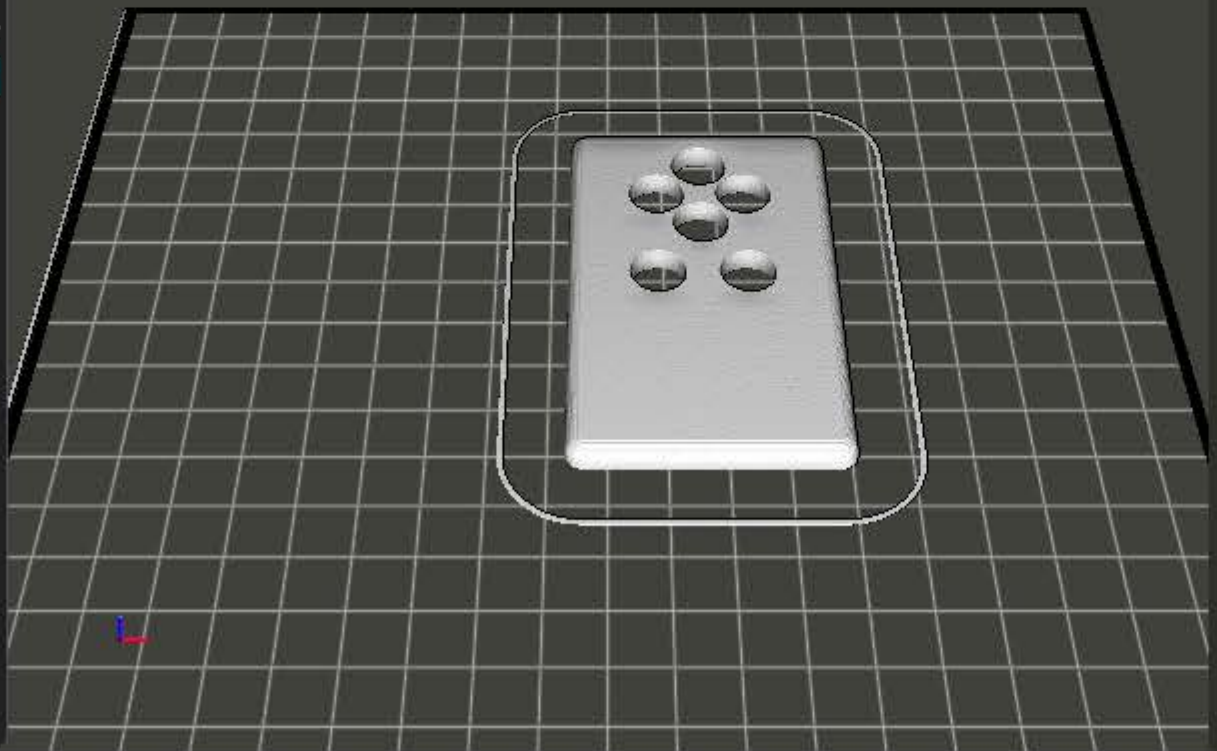
Speed (mm/sec)



dangling (red)



overlaps (blue)



```
1 ;FLAVOR:Marlin
2 ;TIME:4051
3 ;Filament used: 2.94186m
4 ;Layer height: 0.2
5 ;MINX:82.3
6 ;MINY:67.175
7 ;MINZ:0.2
8 ;MAXX:152.7
9 ;MAXY:167.825
10 ;MAXZ:3.6
11 ;Generated with Cura_SteamEngine 4.13.1
12 M140 S50
13 M105
14 M190 S50
15 M104 S200
16 M105
17 M109 S200
18 M82 ;absolute extrusion mode
19 ; Ender 3 Custom Start G-code
20 G92 E0 ; Reset Extruder
21 G28 ; Home all axes
22 G1 Z2.0 F3000 ; Move Z Axis up little to prevent
23 G1 X0.1 Y20 Z0.3 F5000.0 ; Move to start position
24 G1 X0.1 Y200.0 Z0.3 F1500.0 E15 ; Draw the first
25 G1 X0.4 Y200.0 Z0.3 F5000.0 ; Move to side a little
26 G1 X0.4 Y20 Z0.3 F1500.0 E30 ; Draw the second line
27 G92 E0 ; Reset Extruder
28 G1 Z2.0 F3000 ; Move Z Axis up little to prevent
29 G1 X5 Y20 Z0.3 F5000.0 ; Move over to prevent block
30 G92 E0
31 G92 E0
32 G1 F2700 E-5
33 ;LAYER_COUNT:18
34 ;LAYER:0
35 M107
36 G0 F6000 X85.516 Y72.306 Z0.2
37
```

Printer

1.750

Filament diameter

0.400

Nozzle diameter

1

-

+

Number of extruders

200.000

-

+

Bed X size

200.000

-

+

Bed Y size

Bed center is (0,0)

Control

0

-

+

Start at GCode line

100.000

Step (mm)

Reset

Clear below

Pause

Auto pause

✓

Show trajectory

✗

Show overlaps and overhangs (?)

✓

Automatic deposition height & width (?)

Status

24208

-

+

GCode line

97.136

141.16

15.200

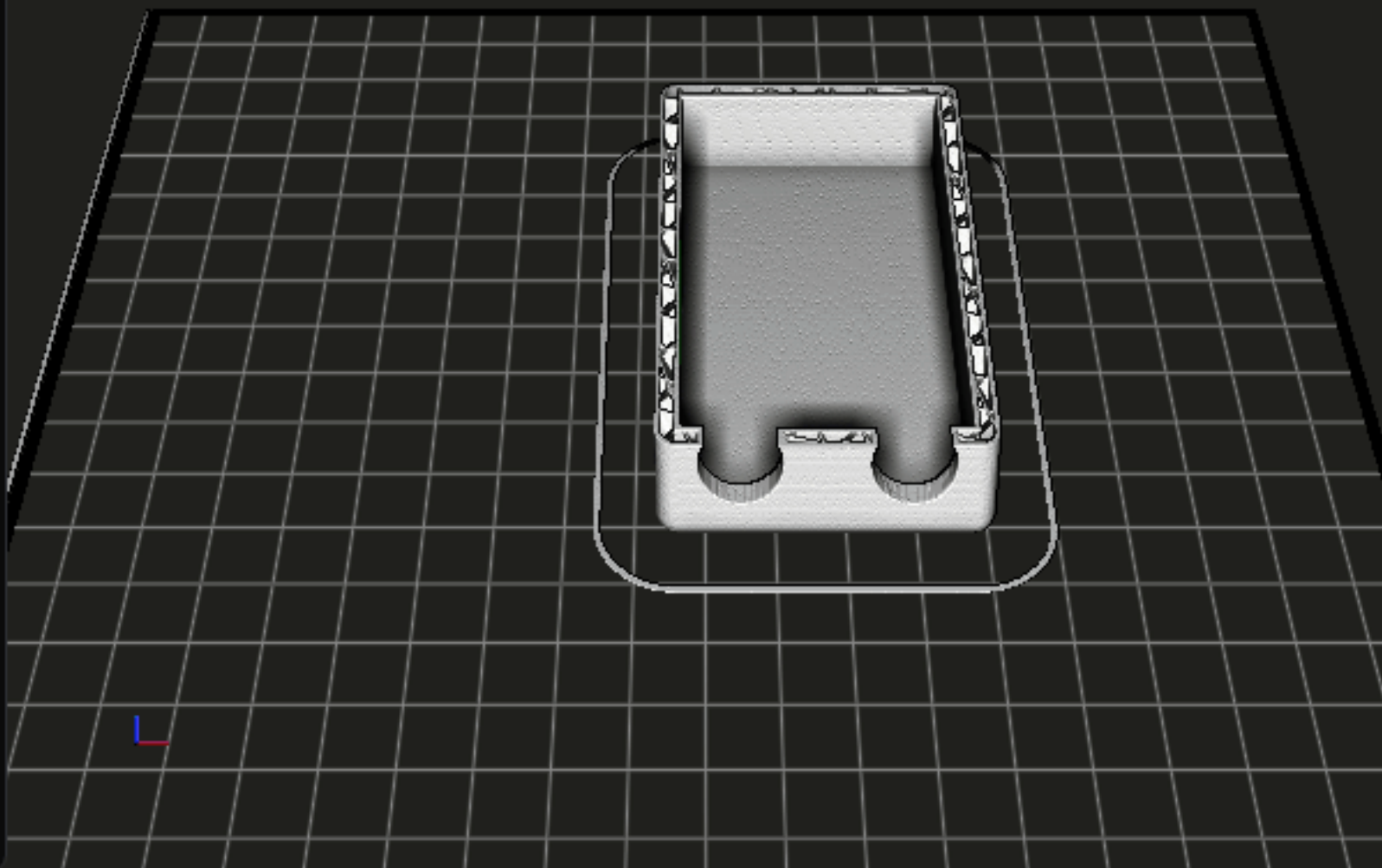
XYZ (mm)

Flow (mm³/sec)

Speed (mm/sec)

dangling (red)

overlaps (blue)



```

1 ;FLAVOR:Marlin
2 ;TIME:9520
3 ;Filament used: 6.54343m
4 ;Layer height: 0.2
5 ;MINX:84.565
6 ;MINY:69.44
7 ;MINZ:0.2
8 ;MAXX:150.435
9 ;MAXY:165.56
10 ;MAXZ:20.6
11 ;Generated with Cura_SteamEngine 4.13.1
12 M140 S50
13 M105
14 M190 S50
15 M104 S200
16 M105
17 M109 S200
18 M82 ;absolute extrusion mode
19 ; Ender 3 Custom Start G-code
20 G92 E0 ; Reset Extruder
21 G28 ; Home all axes
22 G1 Z2.0 F3000 ; Move Z Axis up little to prevent
23 G1 X0.1 Y20 Z0.3 F5000.0 ; Move to start positior
24 G1 X0.1 Y200.0 Z0.3 F1500.0 E15 ; Draw the first
25 G1 X0.4 Y200.0 Z0.3 F5000.0 ; Move to side a litt
26 G1 X0.4 Y20 Z0.3 F1500.0 E30 ; Draw the second li
27 G92 E0 ; Reset Extruder
28 G1 Z2.0 F3000 ; Move Z Axis up little to prevent
29 G1 X5 Y20 Z0.3 F5000.0 ; Move over to prevent blc
30 G92 E0
31 G92 E0
32 G1 F2700 E-5
33 ;LAYER_COUNT:103
34 ;LAYER:0
35 M107
36 G0 F6000 X87.189 Y73.914 Z0.2
37

```


Printer

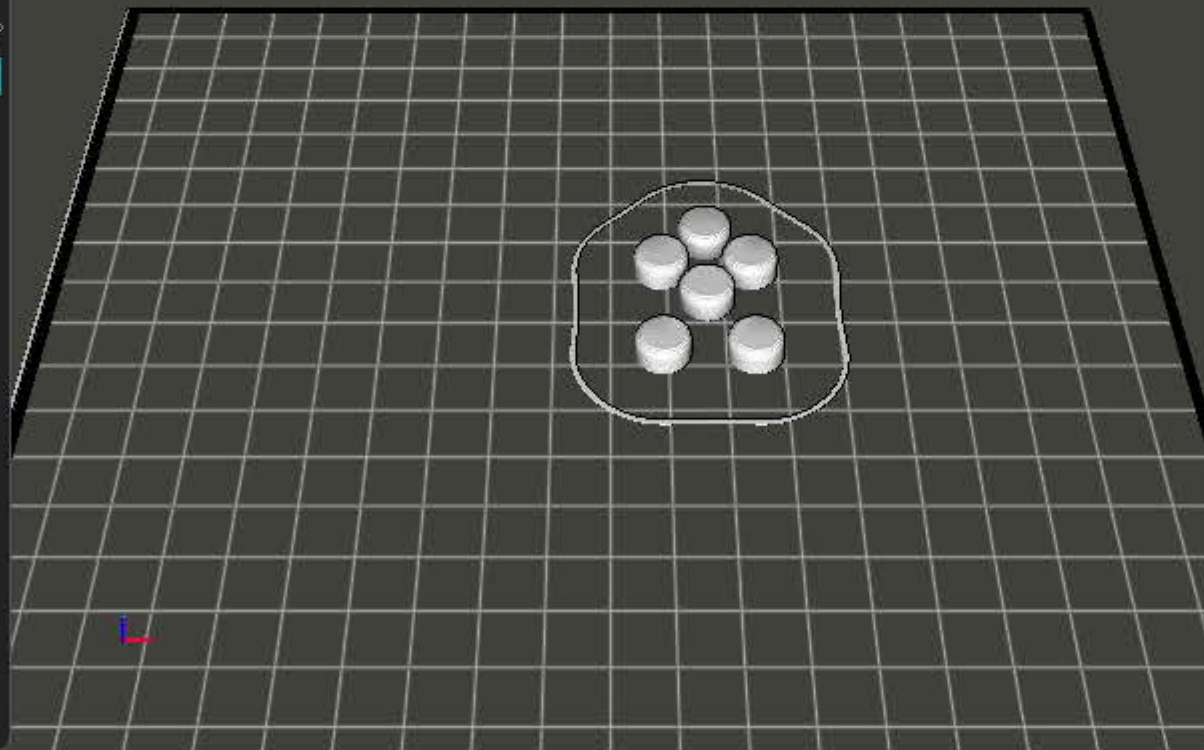
1.750 Filament diameter
0.400 Nozzle diameter
1 Number of extruders
200.000 Bed X size
200.000 Bed Y size
Bed center is (0,0)

Control

0 Start at GCode line
10.000 Step (mm)
Reset Clear below
Pause Auto pause
☒ Show trajectory
☐ Show overlaps and overhangs (?)
☒ Automatic deposition height & width (?)

Status

17700 GCode line
0.400 235.00 10.000 XYZ (mm)
Flow (mm³/sec)
Speed (mm/sec)
dangling (red)
overlaps (blue)



```
1 ;FLAVOR:Marlin
2 ;TIME:841
3 ;Filament used: 0.505516m
4 ;Layer height: 0.2
5 ;MINX:93.516
6 ;MINY:87.769
7 ;MINZ:0.2
8 ;MAXX:141.477
9 ;MAXY:147.226
10 ;MAXZ:4
11 ;Generated with Cura_SteamEngine 4.13.1
12 M140 S50
13 M105
14 M190 S50
15 M104 S200
16 M105
17 M109 S200
18 M82 ;absolute extrusion mode
19 ; Ender 3 Custom Start G-code
20 G92 E0 ; Reset Extruder
21 G28 ; Home all axes
22 G1 Z2.0 F3000 ; Move Z Axis up little to prevent
23 G1 X0.1 Y20 Z0.3 F5000.0 ; Move to start position
24 G1 X0.1 Y200.0 Z0.3 F1500.0 E15 ; Draw the first
25 G1 X0.4 Y200.0 Z0.3 F5000.0 ; Move to side a little
26 G1 X0.4 Y20 Z0.3 F1500.0 E30 ; Draw the second line
27 G92 E0 ; Reset Extruder
28 G1 Z2.0 F3000 ; Move Z Axis up little to prevent
29 G1 X5 Y20 Z0.3 F5000.0 ; Move over to prevent block
30 G92 E0
31 G92 E0
32 G1 F2700 E-5
33 ;LAYER_COUNT:20
34 ;LAYER:0
35 M107
36 G0 F6000 X97.991 Y92.662 Z0.2
37
```