



This technical drawing illustrates the layout of a PCB for a robot, featuring various components and their dimensions. The drawing is organized into a grid with columns 1 through 8 and rows A through F.

Components and Dimensions:

- Gyroscope:** Dimensions include 15, 20, and 21.60.
- Buck Converter:** Dimensions include 45, 10.50, and 9.
- Motor Controller:** Dimensions include 56 and 54.
- TOF sensors:** Dimensions include 12.30 and 9.50.
- TOF sensor mounts:** Dimensions include 20 and 30.
- Middle Layer:** Dimensions include 160, 140, and 120.

Table 1: Component Details

Component	Dimensions (mm)
Gyroscope	15, 20, 21.60
Buck Converter	45, 10.50, 9
Motor Controller	56, 54
TOF sensors	12.30, 9.50
TOF sensor mounts	20, 30
Middle Layer	160, 140, 120

Table 2: Revision History

REV	DESCRIPTION	DATE
1	Initial Design	2023-10-27

Table 3: Component Specifications

Component	Manufacturer	Part Number
Gyroscope	STMicroelectronics	LSM6DS3
Buck Converter	TI	TPS5430
Motor Controller	TI	DRV8833
TOF sensors	STMicroelectronics	VL53L0X
TOF sensor mounts	Custom	-

Table 4: Assembly Instructions

Step	Description
1	Mount TOF sensor mounts on the PCB.
2	Mount TOF sensors on the TOF sensor mounts.
3	Mount the Buck Converter on the PCB.
4	Mount the Gyroscope on the PCB.
5	Mount the Motor Controller on the PCB.

Table 5: Bill of Materials (BOM)

Qty	Part Number	Description
1	LSM6DS3	Gyroscope
1	TPS5430	Buck Converter
1	DRV8833	Motor Controller
2	VL53L0X	TOF sensors
2	-	TOF sensor mounts

Table 6: Drawing Information

Field	Value
UNLESS OTHERWISE SPECIFIED:	DIMENSIONS ARE IN MILLIMETERS
SURFACE FINISH:	LINEAR:
TOLERANCES:	ANGULAR:
FINISH:	DEBUR AND BREAK SHARP EDGES
DO NOT SCALE DRAWING	REVISION
TITLE:	Middle_layer
DWG NO.	A3
SCALE:1:2	SHEET 1 OF 1

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This technical drawing illustrates the layout of a PCB for a robot, featuring several key components and their dimensions. The drawing is organized into a grid with columns 1 through 8 and rows A through F.

Components and Dimensions:

- Middle Layer:** A large rectangular component with a width of 160 and a height of 140. It features a central rectangular cutout and a smaller rectangular cutout on the right side. The bottom edge is labeled "Middle Layer".
- Buck Converter:** A component with a width of 45 and a height of 20. It includes a central rectangular cutout and two circular features on the left side. The bottom edge is labeled "Buck Converter".
- Gyroscope:** A component with a width of 15 and a height of 20. It features a central rectangular cutout and two circular features on the right side. The bottom edge is labeled "Gyroscope".
- Motor Controller:** A component with a width of 56 and a height of 54. It features a central rectangular cutout and two circular features on the right side. The bottom edge is labeled "Motor Controller".
- TOF sensors:** A component with a width of 12.30 and a height of 9.50. It features a central rectangular cutout and two circular features on the right side. The bottom edge is labeled "TOF sensors".
- TOF sensor mounts:** A component with a width of 20 and a height of 30. It features a central rectangular cutout and two circular features on the right side. The bottom edge is labeled "TOF sensor mounts".

Dimensions and Tolerances:

- Overall width: 160
- Overall height: 140
- Component widths: 45, 15, 56, 12.30, 20
- Component heights: 20, 20, 54, 9.50, 30
- Tolerances: LINEAR: ANGULAR:

Table:

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: ANGULAR:						FINISH:		DEBUR AND BREAK SHARP EDGES		DO NOT SCALE DRAWING		REVISION	
NAME		SIGNATURE		DATE						TITLE:			
DRAWN													
CHK'D													
APPV'D													
MFG													
Q.A													
						MATERIAL:				DWG NO.		A3	
						WEIGHT:				SCALE:1:2		SHEET 1 OF 1	

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