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A																	
B																	
C																	
D																	
E																	
F																	
G																	
H																	

EBO V2

Electrical schematic

POWER SUPPLY

The Power Supply section (A) includes a 24V input line with a switch S1 and fuse F1 (5A). A 24V battery G1 is connected in parallel. The 24V line powers an INA226 current sensor (A1) and a 24V-5V buck converter (U1). The INA226 provides analog outputs V+ and A+ for current measurement. The 5V output from U1 is used to power the LED strip and the controller.

MOTOR DRIVE

The Motor Drive section (E) shows two L298N motor driver ICs (U3) driving DC motors M1 and M2. Each driver takes 9V input and provides four digital control pins (Out 1-4) and two enable pins (ENA, ENB).

LED STRIP

The LED Strip section (F) uses WS2812B ICs (A3) to drive an RGB LED strip. The strip has 2812 pixels and is controlled via a DIN signal and ground connection.

CONTROLLER

The Controller section (D-H) is a Jetson Xavier NX board. It features a central A2 module with various connectors: USB, Network, and multiple USB and HDMI ports. Two cameras (Camera 1 and Camera 2) are connected to the board. The board also includes a circular area labeled "Borne 1" with pins numbered 1 through 21. A detailed view of the A2 module shows its internal components and pin assignments.



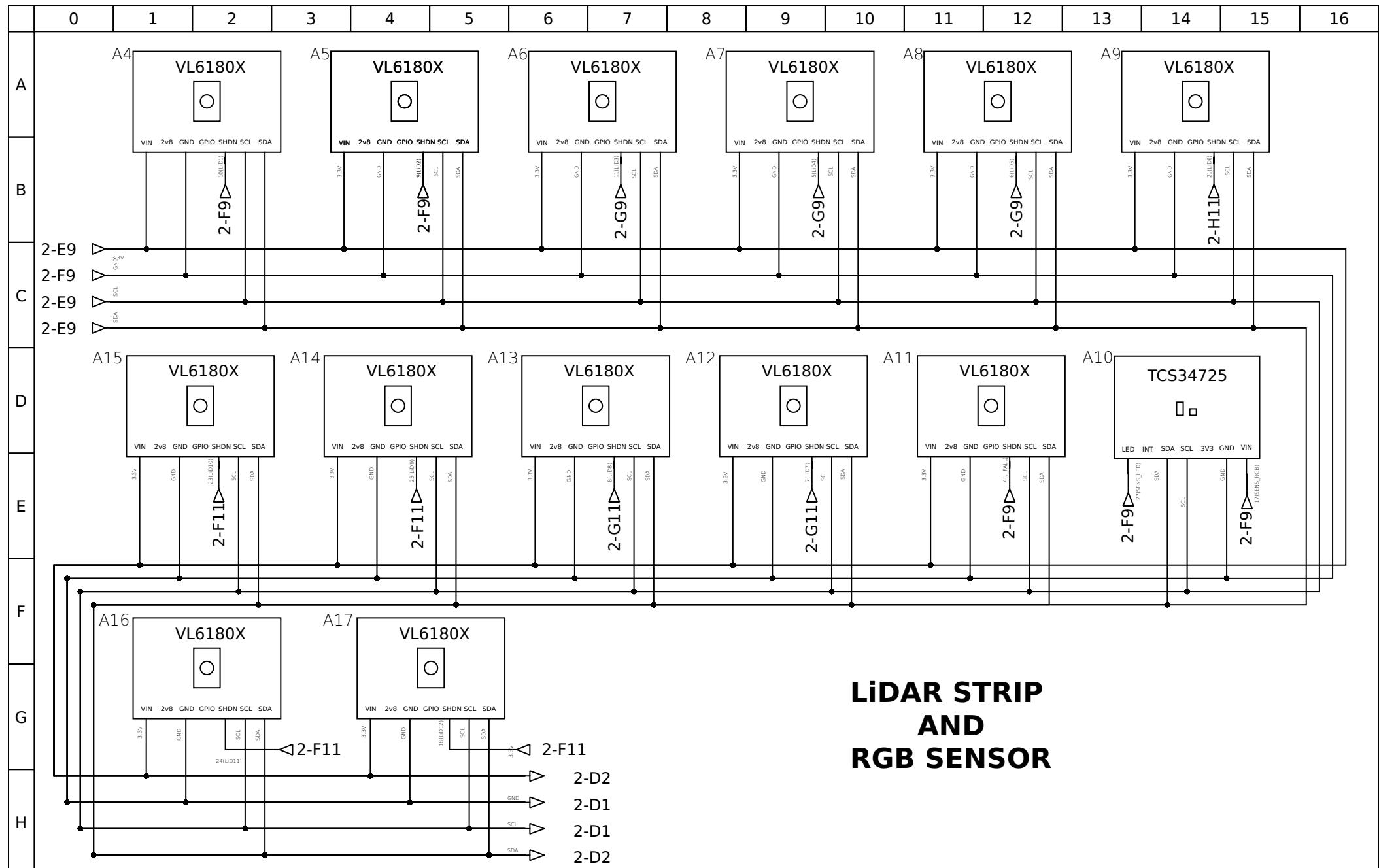
Autor: Alejandro Torrejón Harto

Fecha: 29/8/24

Power supply, actuators and controller

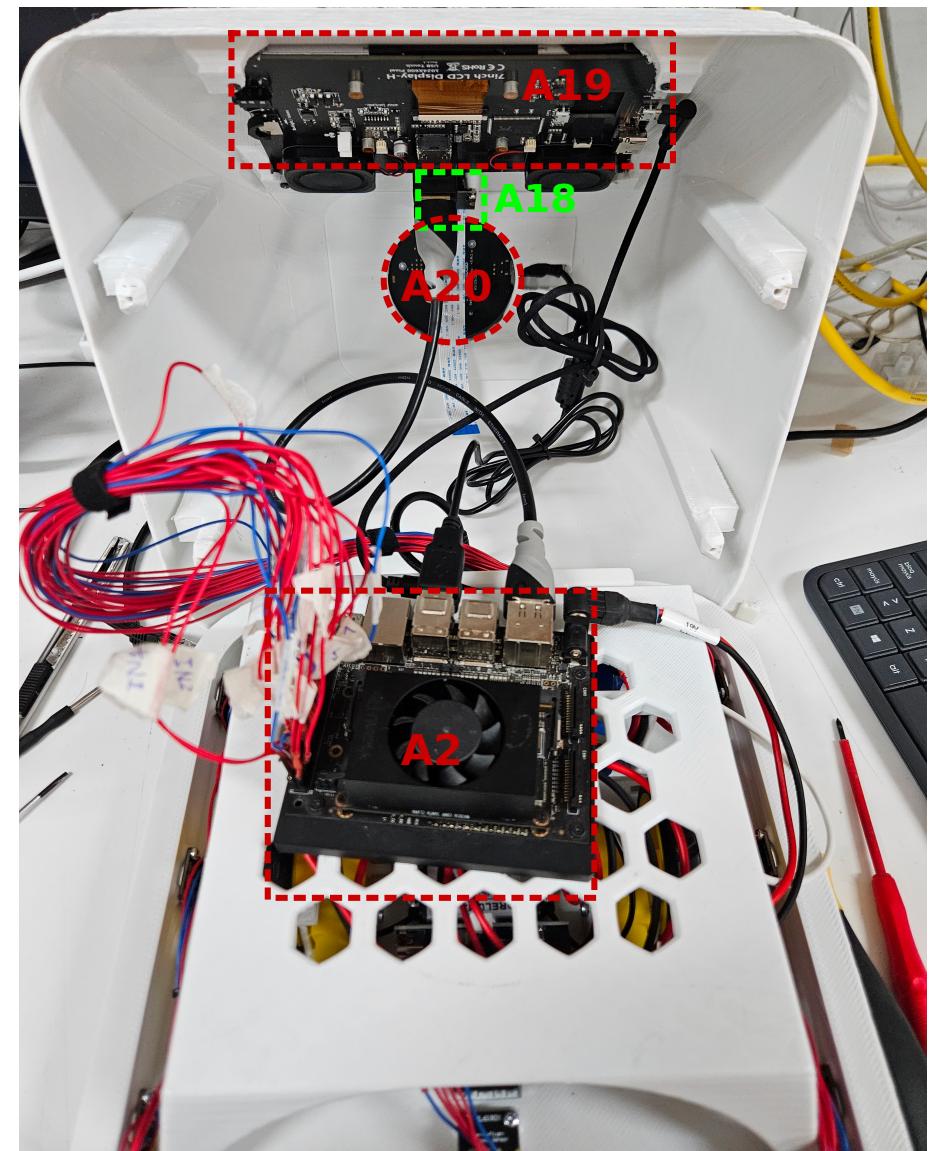
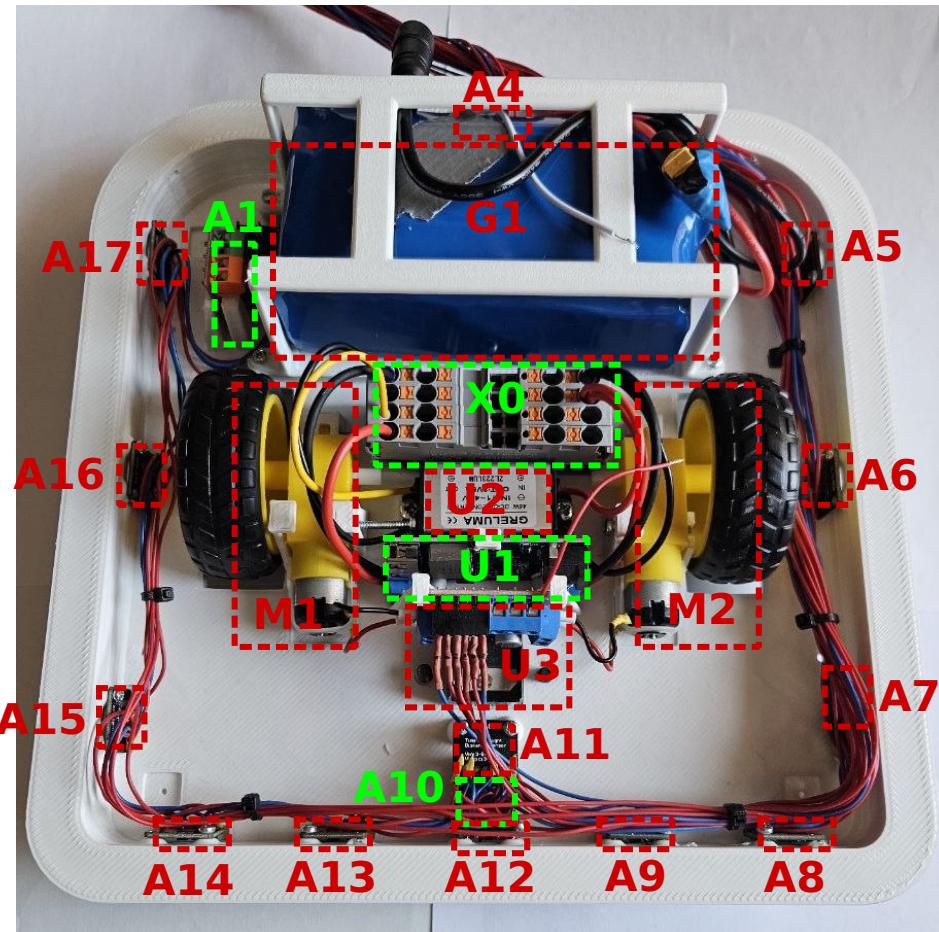
Archivo: EBO V2 Electrical schematic

Folio: 2/6



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A



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A																	
B																	
C																	
D																	
E																	
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