NODE(S):

Nodes are meant to add additional functionality in small form factors, such as extra motor control, AI acceleration, external memory and relays, with more planned in the future. The alphanumeric format (M1, etc.) following the NODE tag is the designation, standing for the functionality of the module, showing the generation/capability level provided by the module. The current planned NODE designations are:

- **M** = Motor control
- **C** = Compute Modules
- **P** = Power management
- **N** = Network/Communications (CAN, LoRA, etc.)
- **D** = Display/Interface
- **S** = Sensors/Input Devices

The NODE system is meant to work with every controller, easily interfacing and being recognized. This means that the NODES will need to have a semi-standardized connector interface. At minimum, all of the nodes in a designation should connect in the same way, +/- a single pin.

Release 1 NODES:

- NODE-M1 (✓)
  - Motor Module 1 will use a DRV8833PW IC to control a single motor based off of three PWM signals (SLEEP, AIN1, AIN2). The chip will communicate to the board through I/O.
- NODE-C1 (✓)
  - Compute Module 1 will use the Kendryte K210 (MAIX M1) chip for machine learning and artificial intelligence applications. The chip will communicate with the board through I/O (UART).
  - The board will have a separate USB-C port, and will need to be programmed separately from the board it is connected to.
- NODE-C2 (✓)
  - Compute Module 2 will use three W25Q128JVS flash modules, used for bulk data storage, firmware updates, data logging, and file system operations, and two 25LC512 EEPROM modules, used for configuration data, calibration settings, user preferences, and frequently-updated system parameters. The chip will communicate with the board through I/O (SPI).
- NODE-N1 (✓)
  - Networking Module 1 will use a GPS module for long range tracking. This chip will communicate to the board through I/O.

- NODE-N2
  - Networking Module 1 will use a LoRa module (SX1276) for long range, low-power communication. This chip will communicate to the board through I/O.
- NODE-N3
  - Networking Module 3 will use a CAN controller (MCP2515) and CAN transceiver (MCP2551) for reliable automotive and industrial bus communication. The chip will communicate to the board through I/O (SPI).
- NODE-S1
  - Environmental Sensors

Release 1 NODES: