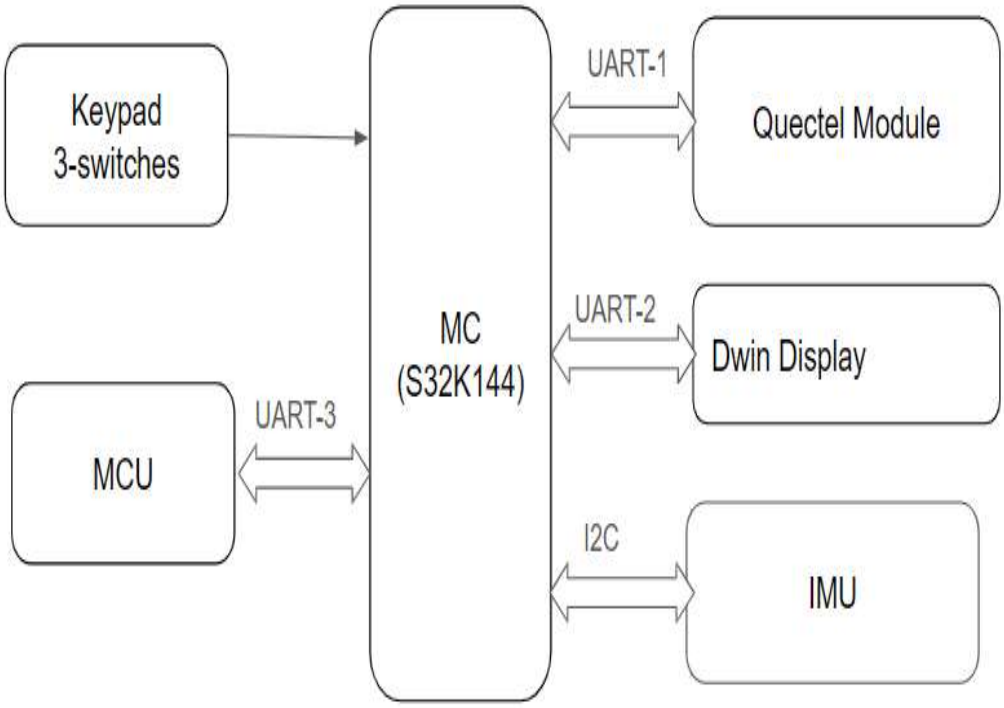
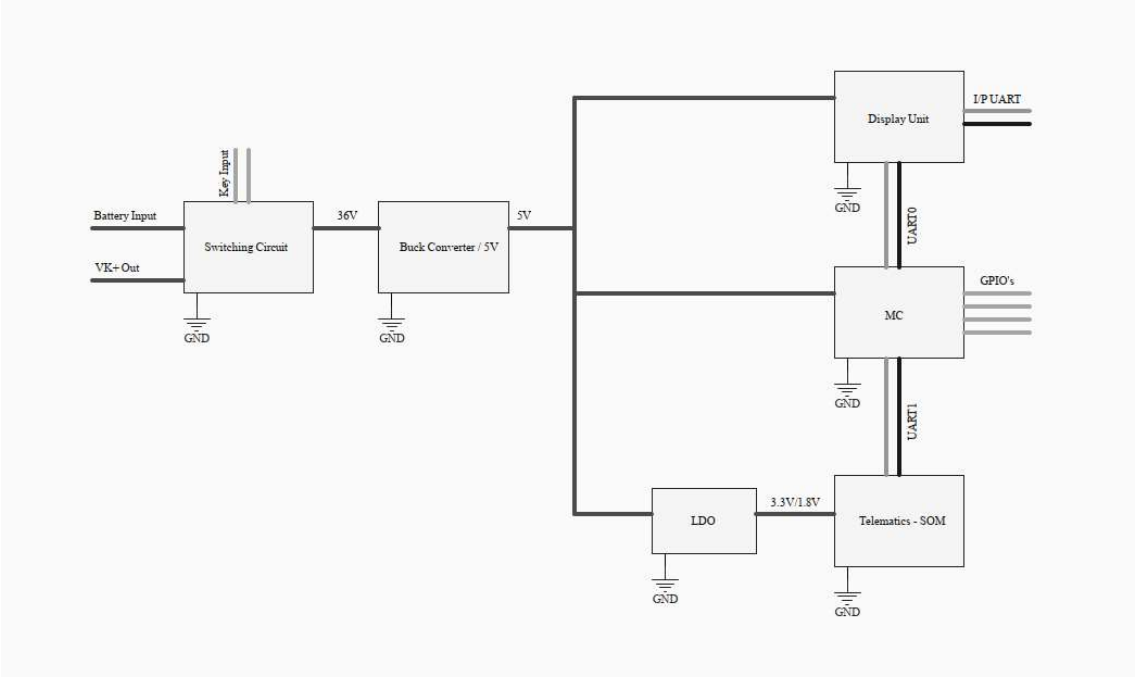
# Amigo Scope of work

Date : 8/05/2024

**Scope :** Developing the display which communicates with the Emotorad MCU unit.

Hardware Block:






Software Implementation requirements :

1) **Keypad :**
    a) Powering ON the system using the power key
    b) Using up and down selecting the menu and other features (Walkmode, Cruisemode, Headlamp ON/OFF and other controls)
2) **Dwin Display :**
    a) Showing the speed, Battery voltage and current.
    b) Cruise and walk status
    c) Headlamp status
    d) Parameter settings
    e) PAS settings
    f) ODO display
    g) Trip distance
    h) Trip duration
    i) Navigation ( Left/right turn)
    j) UART communication with the S32k144

Note : Above Dwin display work with GUI based software build module ( Dgus software).
For more information please refer to : https://www.dwin-global.com/dgus/

3) **Quectel Module (SOM)**

a) UART communication with the S32k144
b) Communicate with the cloud using the **AT commands**
c) Get the latitude and longitude and send it to cloud in format(Format needs to be discussed with the backend team)
d) Receive the date from the cloud.

**4) MCU**

a) UART communication with the S32k144 ( Baud rate -9600bps)
b) Get the speed time and display it
c) Send the PAS, walk mode, cruise and headlamp setting to MCU in a format ( As per M5 display format)
d) Send ignition control related data to MCU

5) IMU

a) I2c implementation to communicate with the S32k144.
b) Read the IMU data and process as per the data ( if any unwanted data, send information to cloud)