

Autonomous Electric Driving Vehicle



Note Shown image is just for illustration original may differ

Specifications

Body:

- 1 Size- 195x420x 220mm(W x D x H)
- 2 Weight- 4.3Kg
- 3 Battery- 14.8V/7000mA
- 4 Wheels - 4Wheels with Shock Absorber

Motor

- 1 4 wheel drive Motor 1 ea - Rated speed 185 RPM (with Body Gear) Max Speed 0.85m/s
- 2 Steering Servo Motor- Stall torque- 9.4 kgf.cm
- 3 Operating speed - 0.17 s/60°
- 4 Ultrasonic sensor- Front 2ea, Rear 2ea
- 5 Sensor operates at 40Hz
- 6 Range as 15cm
- 7 Maximum Range of 400 cm
- 8 LED- Front 2ea, Rear 2ea

TFT LCD

- 1 Touch Screen- Size. 5 inch
- 2 Resolution- 960x 44
- 3 Touch 5- Points.
- 4 Capacitive Interface: HDMI

Main Module

CPU:

- 6-core NVIDIA Carmel ARM v8.2 64-bit
- 6MB L2 + 4MB L3
- Max Freq : 6-core@1900Mhz

GPU:

- 1 384-core NVIDIA Volta™ GPU with 48 Tensor Cores
- 2 Max Freq : 1100MHz
- 3 Memory: 16GB 128-bit LPDDR4x@ 1600MHz
- 4 Storage 16GB eMMC 5.1 , NVMe 256GB SSD 1ea(M.2)
- 5 Video Encoder: 2x464MP/sec(HEVC), 2x4k@ 30(HEVC)
- 6 6x 1080p@ 60(HEVC), 14x 1080p@ 30(HEVC)

Video Decoder:

- 1 2x690MP/sec(HEVC), 2x4k@ 60(HEVC), 4x4k@30(HEVC)
- 2 12x1080p@ 60(HEVC), 32x 1080p@ 30(HEVC), 16x 1080p@30(H.264)
- 3 CSI Camera : Up to 6 cameras(36 via virtual channels)
- 4 12 lanes MIPI CSI—2, D—PHY 1.2(up to 30 Gbps)
- 5 Connectivity: Dual Band Wireless WiFi 2GHz/5GHz Band, 867Mbps, 802 11ac Bluetooth 4.2
- 6 10/100/1000 Base—T Ethernet
- 7 Display Interface: HDMI 2.0
- 8 USB : 4x USB 3.0, USB C Type(OTG) tea

Base Board

- 1 PMIC Block: constant-current / constant-voltage Li-ion battery charger controller LED
- 2 indicate- Full Charge/Charging/Over Current

Controller :

- 1 ARMO®32-bit Cortex® - M CPU
- 2 CAN FD Communication Power Check, Battery Temperature Check
- 3 Motor Driver: 12V Operating Voltage
- 4 Total DC Current up to 4A
- 5 Over temperature protection

IMU sensor :

- 1 Gyroscope Ranged - ± 125 °/s to ± 2000 °
- 2 Accelerometer Range: $\pm 2g/\pm 4g/\pm 8g/\pm 16g$
- 3 Magnetic Field range: $\pm 1300\mu T$ (x-, y-axis), $\pm 2500\mu T$ (Z-axis) Interface: I2C
- 4 Supply Voltages 3.3V
- 5 Illuminance Sensor : Sensor : CdS
- 6 Operating Voltage 3.3V
- 7 Ultrasonic Sensor : Front 2ea, Rear 2ea



Sound :

- 1 *Audio Driver Block*
- 2 *1ch Microphone*
- 3 *Omni-directional*
- 4 *Sensitivity. -42dBV*
- 5 *Stereo Speaker 2W*

Camera :

- 1 *Image Sensor: Sony IMX219*
- 2 *Resolution: 8M pixel native resolution sensor (3280 x 2464 pixel static images)*
- 3 *Video - 1080p30, 720p60 and 640x480p90*
- 4 *Linux integration : V4L2 driver available*
- 5 *Focal length: 3.04 mm*
- 6 *Angle of view: 60 degrees*
- 7 *Focal ratio (F-Stop) : 2.35 Tilt Angle 120° Adjustable*

Option

- 1 *LiDAR :*
- 2 *Distance Range : 12m*
- 3 *Angular Range : 0 – 360 degree*
- 4 *Distance Resolution . (0.5(0.15 - 1.5meters)*
- 5 *Angular Resolution : 0.9degree*
- 6 *Sample Duration : 0 25 millisecond*
- 7 *Sample Frequency : 4KHz*
- 8 *Scan Rate : 10Hz*