

The Pluton X is a popular research mobile robot. Its versatility, reliability and durability have made it the reference platform for robotics research. Unlike hobby and kit robots, It is fully programmable, and will last through years of tough classroom and laboratory use.

### Computational Block: Mamba Dual-Core Computer

- Microcontroller: CPU: dual-core 2.26 GHz 32-bit Intel Core 2 Duo P8400
- Flash : Ethernet: dual 10/100/1000 ports
- USB: six USB 2.0 ports with standard connectors
- Serial: four RS-232 serial ports (two of which are RS-422 capable)
- Generic digital I/O: 32 with SPI interface
- Generic analog I/O: 8 inputs, 4 outputs with SPI interface
- Disk: 40GB solid state SATA (computer supports two SATA devices)
- OS Preinstalled and configured: Linux or Windows XP Embedded
- 2 X PC/104+ Slots
- Fire Wire : IEEE 1394

### Sensors:

#### Rear Sonar Sensors- 3 Units

- Supply Voltage – 5 VDC
- Supply Current – 30 mA typ; 35 mA max
- Range – 2 cm to 4 m
- Input Trigger – positive TTL pulse, 2 uS min, 5 uS typ.
- Burst Frequency – 40 kHz for 200 uS
- Burst Indicator LED shows sensor activity
- Delay before next measurement – 200 uS

#### WIFI to UART Module : High Speed Wireless Ethernet

- Data Rate : 11M bps
- Support the STA applications in the infrastructure network
- Support the OPEN/WEP mode authentication
- Support the WEP64/WEP128/CCMP/WPI data encryption

### Others:

- Rechargeable Battery: Li-Po 11.1V , 7Amp/HR
- Battery Charger
- Switching Interface
- Rework docking station
- Documentation and tutorials
- Necessary set of tool kit
- All required cables and connectors
- SD MMC card holder
- Expansion headers for GPIOs, I2C, SPI, UARTs, Power etc.
- 4 switches and 4 LED displays



### Communication:

#### Zigbee : 60mW with Wire Antenna : 2 Units

- 3.3V @ 215mA
- 250kbps Max data rate
- 60mW output (+18dBm)
- 1 mile (1500m) range
- AT or API command set
- USB interface adapter

#### USB 2.0 Wired Communication

#### RS232 wired Communication

### Indications

- Indicator LEDs
- Piezo Electric Buzzer

### Development Application:

- Development Support: Eclipse
- Serial protocol based firmware for accessing robot data and controlling the robot via Matlab / Labview / Beagle board / ARMbased board etc

Note: Specifications are subject to change.

### Tesca Technologies Pvt. Ltd.

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension,  
Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,  
Tel: +91-141-2771791 / 2771792; Email: info@tesca.in, tesca.technologies@gmail.com  
Website: www.tesca.in