Main Features

- Intel Atom® processor quad core E3950, up to 2.0GHz
- 4 x PoE (802.3af/at, max. 60W)
- Built-in u-blox-M8N GPS
- Three video outputs, one VGA and two HDMI
- EN 50155, class OT4 conformity

- 3 x mini-PCIe socket expansion
- Dual external storage (compatible with 15mm disk)
- 1 x USB DOM to run OS
- 1 x SD card for exporting and backing up data
- Optional power isolation kit support

Product Overview

nROK 6222, based on Intel Atom® quad core processor E3950 (up to 2.0GHz), is specifically comply with stringent EN50155 standard in rugged, fanless and compact mechanism. nROK 6222 provides complete communication capability between train and computer with build-in CAN BUS 2.0B interface. Equipped with intelligent power management, nROK 6222 can be waked on by ignition, RTC timer or SMS message remotely. nROK 6222 supports 4 x 802.3at/3af (Max. 60W) PoE ports to connect with IP cameras. The design of 2.5" removable SSD and SD memory card helps to access storage easily. nROK 6222 keeps the flexibility to meet the demand for video surveillance in train application. Moreover, nROK 6222 is protected against sudden power surges through an attachable VTK6222-PK power isolation kit.

Specifications

CPU

- Intel Atom® processor quad core E3950, up to 2.0GHz, 12W, 4 core

Memory

- 1 x 204-pin DDR3L SO-DIMM socket support 1866MHz up to 8GB. default 4GB

Video Output

- Chipset Intel® HD graphics 505
- 2 x HDMI 1.4b up to 4096 x 2160 @30Hz
- 1 x VGA up to 1920 x 1200 @60Hz

Storage

- 2 x 2.5" SATA 3.0 external SSD (compatible with 15mm drive)
- 1 x SD memory card 3.0 (externally accessible)
- 1x USB EDC for USB DOM

Expansion

- 1 x Full size mini-PCIe socket (USB 2.0), BOM optional M.2 3042 key B (USB 2.0 + USB 3.0) with 2 x external SIM
- 1 x Full size mini-PCIe socket (USB 2.0 + PCIe 2.0)
- 1 x Half size mini-PCIe socket (USB 2.0 + PCIe 2.0)

GNSS and Onboard Sensor

- 1 x Default U-blox NEO-M8N GNSS for GPS/Glonass/QZSS/Galileo/Beidou
- G Sensor (3-axis, 10-bit resolution)
- TPM 2.0 (optional)

LAN and Power over Ethernet

- 4-Port LAN, 10/100/1000 Mbps I210-IT GbE, PoE 802.3af/at, max. 60W
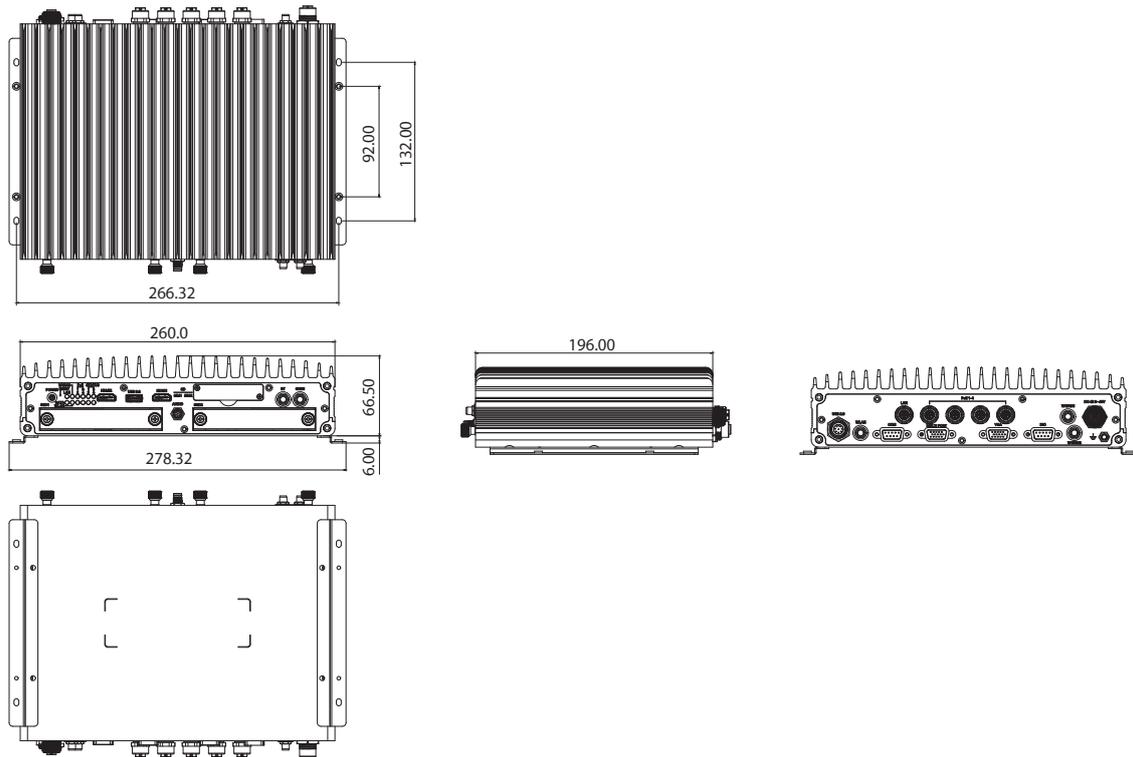- 1-Port LAN, 10/100/1000 Mbps I210-IT GbE

I/O Interface-Front

- 12 x LED indicators (including 3 x programmable LED)
- 2 x externally accessible SIM card socket with cover
- 2 x 2.5" removable SSD tray
- 1 x externally accessible SD card socket with cover
- 1 x reset button
- 1 x power button
- 1 x USB 3.0 type A (5V/0.9A)
- 2 x HDMI 1.4b
- 1 x M8 (6-pin) for 1 x Mic-in (mono), 1 x Line-out (Stereo)
- 2 x SMA antenna

I/O Interface-Rear

- 1 x M12 (5-pin) DC input with ignition
  - 24 / 36 VDC (9~48V), non-isolation
- 1 x M12 X-coded LAN port, 10/100/1000 Mbps
- 4 x M12 X-coded PoE 802.3af/at (max. 60W)
- 1 x VGA
- 1 x M12 with two USB 2.0
- 1 x DB9 full RS232 (isolation)
- 3 x SMA antenna

Dimension Drawing

- 1 x DB15 (DIO)
  - 4 x DI with isolation
  - 4 x DO with isolation
  - Vin, GND for GPIO
- **1 x DB15 (MULTI PORT)**
  - 1 x RS422/RS485
  - 1 x RS232 (TX/RX)
  - 1 x CAN 2.0B

Power Management & Software Support
- Power input 24/36 VDC w/o isolation
- Selectable boot-up & shut-down voltage for low power protection by software
- Setting 8-level power on/off delay time by software
- Support S3/S4 suspend mode
- 10~255 seconds WDT support, setup by software
- SDK (Windows/Linux) including utility and sample code

Operating System
- Windows 10/Linux

Dimensions
- 260mm (W) x 196mm (D) x 66.5mm (H)

Weight
- 3.4kg

Environment
- Operating temperatures: -40°C to 70°C (w/industrial SSD) with air flow
- Storage temperatures: -40°C to 80°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random)
  - 2g@5~500 Hz (in operation, SSD)
- Vibration (SSD)
  - Operating: MIL-STD-810G, Method 514.6, Category 4, common carrier US highway truck vibration exposure

- Storage: MIL-STD-810G, Method 514.6, Category 24, minimum integrity test
- Shock (SSD)
  - Operating: MIL-STD-810G, Method 516.6, Procedure I, functional shock=40g
  - Non-operating: MIL-STD-810G, Method 516.6, Procedure V, crash hazard shock test=75g

Standards/Certifications
- CE
- FCC Class A
- EN 50155:2017
  - Ambient temperature EN 50155, class OT4 (-40 ~ 70°C)
  - Shock and vibration IEC 61373 class B
  - Interruptions of voltage supply class S1
  - Supply change over class C1,C2
  - EMC EN 50121-3-2:2016

Ordering Information

- **nROK 6222-AC4S (P/N: 10A00622200X0)**
  Intel Atom® processor E3950 up to 2.0GHz CPU, 4GB DDR3L SO-DIMM, DC input 24/36 VDC w/o isolation, 1 x VGA, 2 x HDMI, 1 x LAN, 4 x PoE, 2 x RS232, 1 x RS422/485, 8 x GPIO, 1 x USB 3.0, 2 x USB 2.0

- **VTK-6222-APK (P/N: 10VK0622200X0)**
  Attachable power kit for power isolation, DC input 24VDC

- **VTK-6222-FPK (P/N: 10VK0622201X0)**
  Attachable power kit for power isolation, DC input 110VDC