IN-VEHICLE Computing Version 2023-11-27

## **VBOX-3121-NX**

# PATENT No. M447854 BUILT-IN BATTERY

#### **Features**

- Intel® Core™ i3-6100U Processor
- 3 x mPCIe Slots for WWAN, GPS, and CAN Bus Expansion
- 1 x M.2 2230 Slot for Wi-Fi and Bluetooth Expansions
- 4 x USB Ports for Device Connections
- 9V 60V DC Power Input with Smart Power Management for Vehicle
- 2 x COM for RS-232/422/485
- 1 x DB-15 for 4 x DI / 4 x DO (5V / 100mA) / 2 x Analog Input (0~60V with 0.5V accuracy)



The VBOX-3121-NX is powered by Intel Gen 6 processor with HD Graphic 520 /2 x LAN/2 x HDMI/VGA with 2 x RS-232/DC 9-60V Input, and up to 16GB DDR4 SO-DIMM In-Vehicle Computer. It provides high-performing, yet cost-effective, multi-purpose devices for public transportation, police patrol and railway management. Additionally, VBOX-3121-NX is designed for fleet management, mobile DVR, driver behavior record and in-vehicle digital signage. It can effectively support vehicles in bad weather and extreme working conditions, such as snowplow, train, and stacker operations.

#### **Specifications**

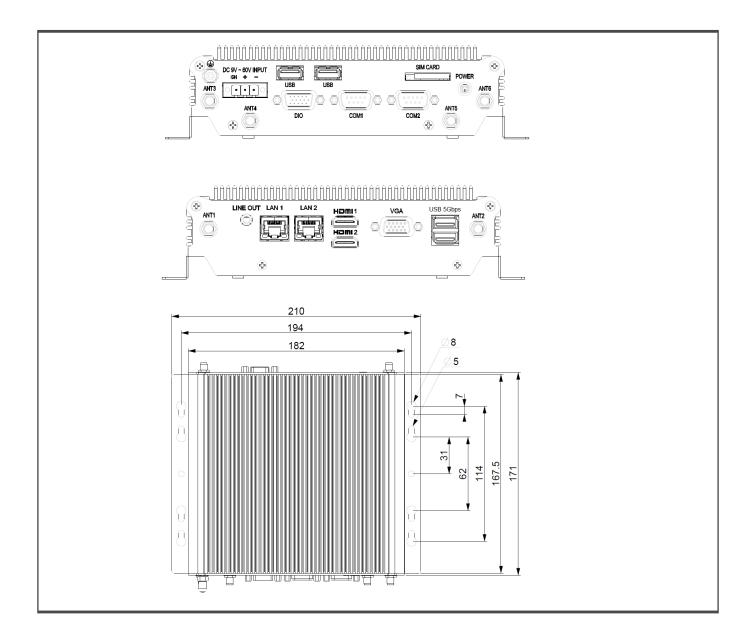
System		
СРИ	Intel® Core™ i3-6100U 2.3GHz Intel® Celeron® Processor 3955U 2.0GHz	
Memory	1 x DDR4 SO-DIMM up to 16GB	
Graphics	Intel HD 520 Graphics for i3	
Storage	2 x SATA ports with 6Gb/s Transfer Rate	
Ethernet	1 x Intel® I210-AT Gigabit Ethernet (LAN 1)	
	1 x Intel® I219-LM Gigabit Ethernet (LAN 2)	
Security	TPM 2.0	
Watchdog	1 ~ 255 level reset	
1/0		
Serial Port	2 x COM for RS-232/422/485 (The 3rd COM for option)	
USB Port	2 x USB 3.0, 2 x USB 2.0 ports	
LAN Port	2 x RJ-45 ports for GbE	
Video Port	2 x HDMI, 1 x VGA	
GPIO Port	4 DI, 4 DO (5V / 100mA), 2 x Analog Input (0~60V with 0.5V step)	
Audio	MIC-in/Line-out	
Expansion Bus	$3 \times$ mPCle slots (2 x USB interface only, one for SIM card slot) $1 \times$ M.2 2230 Key E slot	
Antenna Hole	6 x SMA-type antenna holes for WLAN / Bluetooth/ WWAN / GPS expansions	
SIM Card Slot	1 x SIM card slot for the mPCle slot on the VIB (USB Interface)	
Software		
Operating System	Windows 10 IoT 64-bit, Ubuntu 20.04 LTSC 64-bit	

Environmental		
Operating Temp.	-40 ~ 70°C (w/ SSD), ambient w/ 0.6m/s airflow	
Storage Temp.	-40 ~ 80°C	
Relative Humidity	10% RH – 90% RH (non-condensing)	
Vibration	IEC60068-2-64, random, 2.5G@5~500Hz, 1hr/axis	
(with SSD)	MIL-STD-810G, Method 514.6, Procedure I, Cat.4, Operating	
Shock	Operating: MIL-STD-810G, Method 516.6, Procedure I, Trucks and semi-trailers=15G (11ms) with SSD	
Certifications	CE, FCC Class A, E-Mark, ECE R118	
Storage		
Tomas	2 x 6Gb/s SATA connectors	
Туре	1 x 2.5" storage installation space	
Power Requirement		
Power Input	9V - 60V DC Power Input	
Power Mgmt.	Vehicle Power Ignition for Variety Vehicle	
Power Off Control	Power off Delay Time Setting by BIOS and Software	
Battery (UPS)	Internal Battery Kit for 10 Mins Operating (Optional) *UPS backup time varies depending on actual overall system power consumption. Patent No.: M447854 - Build-in Battery	
Mechanical		
Construction	Aluminum Alloy	
Mounting	Wall-mounting (VESA mounting is option)	
Weight	1430g	
Dimensions	210 mm x 171 mm x 54 mm (Mounting kit is included)	

AN1 LAN2 HOM11 VGA

All specifications are subject to change without notice.

#### **Dimensions**



### **Ordering Information**

Part Number	VBOX-3121-NX-i3, VBOX-3121-NX-C1
Description	Intel® Core™ i3-6100U with HD Graphic 520 / 2 x LAN/ 2 x HDMI/ VGA with 2 x RS-232/ DC 9-60V Input In-Vehicle Computer
State of Origin	Made in Taiwan

#### **Optional Accessories**

DRAM	SO-DIMM max.DDR4-2133,4GB~16GB,0~70°C/-40~85°C
SATA SSD	2.5inch MLC/TLC 64GB~1TB 0~70°C/-40~85°C
Wi-Fi	M.2 2230 Key A-E Wi-Fi and bluetooth module
CAN	mPCIe CAN bus module
Modem	mPCIe WWAN kit
GPS	mPCIe GPS kit
UPS	BAT-3000 kit, 1150mAH 3S1P Battery kit (0~60°C)
Power Adapter	12V/5A 60W