

**LNG-PRN-0137**

**User Manual**

# Vantron

**Product Version: 1.1**

**Date: Jan 4, 2023**

## Document Information

This table describes the version and release date.

No.	Version	Author	Date	Description
1	1.0	Liu Huan	03/10/2022	First release
2	1.1	Liu Huan	04/01/2023	

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## 1 Foreword

Thank you for purchasing the Product. This manual intends to provide guidance and assistance necessary on setting up, operating, or maintaining the Product. Please read this manual and make sure you understand the functionality of the Product before putting it into use.

### **Intended Users**

This manual is intended for:

- Device owners
- Technical support engineers
- Other users

### **Copyright**

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### **Disclaimer**

While all information contained herein has been carefully checked to assure its accuracy in technical details and typography, Vantron does not assume any responsibility resulting from any error or features of this manual, nor from improper uses of this manual or the software.

It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without notice.

## Technical Support and Assistance

Should you have any question about the Product that is not covered in this manual, contact your sales representative for solution.

### US Office: Vantron Technology, Inc.

Address: 440 Boulder Court, Suite 300 Pleasanton, CA 94566

Tel: 916-202-7042

Email: [sales@vantrontech.com](mailto:sales@vantrontech.com)

### China Office: Chengdu Vantron Technology Co., Ltd.

Address: 6th Floor, 1st Building, No.9, 3rd WuKe East Street, WuHou District, Chengdu, P.R. China 610045

Tel: 86-28-8512-3930/3931, 8515-7572/6320

Email: [sales@vantrontech.com.cn](mailto:sales@vantrontech.com.cn)

## Regulatory Information

The Product is designed to comply with:

- Part 15 of the FCC Rules;



Please refer to **Appendix** for Regulatory Compliance Statements.

Regulatory certification information is available on-device.

Choose    **Setting > System > Authentication information**

## Symbology

This manual uses the following signs to prompt users to pay special attention to relevant information.

	Caution for latent damage to system or harm to personnel
	Attention to important information or regulations

## General Safety Instructions

For your safety and prevention of damage to the Tablet, please read and observe carefully the following safety instructions prior to installation and operation. Keep this manual well for future reference.

- Do not disassemble or otherwise modify the Product. Such action may cause heat generation, ignition, electronic shock, or other damages including human injury, and may void your warranty.
- Keep away from heat source, such as heater, heat dissipater, or engine casing.
- Do not insert foreign materials into the USB port or any other opening of the Product as it may cause the Product to malfunction or burn out.
- Use only the adapter, power cord, and batteries that are approved for use with this Product. Otherwise, it may cause fire or explosion.
- Be sure that nothing rests on the power cable and that the cable is located at a place without risk of trips.
- Cut off the power before inspection of the Product to avoid human injury or product damage.

## Precautions for Power Cables and Accessories

⚠ Use proper power source only. The Product is designed to use 20V DC. Make sure the supply voltage falls within the specified range. Always check whether the Product is DC powered before applying power.

⚠ Place the power cable properly at places without extrusion hazards.

⚠ Cleaning instructions:

- Power off before cleaning the Product
- Do not use caustic or aggressive liquids, vapor, or spray
- Clean with a damp cloth
- Do not try to clean exposed electronic components unless with a dust collector

⚠ Power off and contact Vantron technical support engineer in case of the following faults:

- The Product is damaged
- The temperature is excessively high
- Fault is still not solved after troubleshooting according to this manual

⚠ Do not use in combustible and explosive environment:

- Keep away from combustible and explosive environment
- Keep away from all energized circuits
- Do not change components unless the power cable is unplugged.

## Precautions for Battery

- ⚠ This battery cannot mix with disposal or twice- recycled batteries in use. Otherwise, for its abnormal charge and discharge, it will cause over-heated, distort, smoke or burning.

Cette batterie ne peut pas se mélanger avec des batteries de dépôt ou deux fois recyclées en cours d' utilisation. Sinon, pour sa charge et sa décharge anormales, il provoquera une surchauffe, une déformation, de la fumée ou une brûlure.

- ⚠ Keep the battery out of children's reach and prevent them biting or swallowing the battery.

Gardez la batterie hors de la portée des enfants et empêchez-les de mordre ou d'avaler la batterie.

- ⚠ Do not insert the battery onto the charger for a long time. If charging beyond the normal time, the battery is still in the charger, please stop charging. The abnormal charging will cause battery over-heated, distort, smoke or burning.

N'insérez pas la batterie sur le chargeur pendant une longue période. Si la charge au-delà du temps normal, la batterie est toujours dans le chargeur, s'il vous plaît arrêter de charger. La charge anormale provoquera une surchauffe de la batterie, une déformation, de la fumée ou une brûlure.

- ⚠ Do not put into microwave stove or any other pressure apparatus. Take the battery away from the cellular Tablet or the charger if it is instant heated or leak-out (or odors) and dispose it. The bad battery will cause over-heated, smoke or burning.

Ne pas mettre dans le poêle à micro-ondes ou tout autre appareil sous pression. Retirez la batterie du téléphone cellulaire ou du chargeur si elle est instantanément chauffée ou si elle fuit (ou si elle a des odeurs) et jetez-la. La mauvaise batterie causera surchauffé, de la fumée ou des brûlures.

- ⚠ Risk of fire or explosion if the battery is replaced by an incorrect type

Risque d'incendie ou d'explosion si le type de batterie est incorrect

## 2 Overview

Thank you for choosing Vantron. It is our commitment to provide our valued customers with the state-of-the-art embedded devices and the best product services.

As per request from the customer, we provide LNG-PRN-0137 that runs Yocto linux system based on intel Pentium N4200 with a customer logo on the glass cover. This medical tablet is IP64 rated and has a 10-inch LCD with a resolution of 1920 x 1200 to support standard touch controls.

Being 'Application Ready', the Product has embedded a basic operation system with drivers for the interfaces. Therefore, you just need add your application software only to get the Product ready right away. It can speed Time to Market of your products and save more cost.



### 3 LNG-PRN-0137 Hardware Instructions

LNG-PRN-0137 is developed based on Intel Pentium N4200 series.

#### **Product Appearance and Interfaces**

Figure 3-1, Figure 3-2, and Figure 3-3 show the top view, bottom view, and front view of the Product.

Figure 3-1 Top view



Figure 3-2 Bottom view



Figure 3-3 Front view



## Features

The features of Vantron **LNG-PRN-0137** are listed in Table 3-1.

Table 3-1 Features

Features
■ Processor: Intel® Pentium™, N4200, Quad core, 2.5GHz (Max)
■ LPDDR4 2133MHz 8GB
■ 1 x M.2 2280 SSD Slot, 1 x SATA
■ 1 x LVDS
■ 1 x M.2 M-KEY slot, 1x M.2 E-KEY
■ 1 x Type-C
■ 1 x 10/100 Ethernet
■ TPM Supported
■ 2 x Speaker
■ RTC Supported
■ 20V Power Supply
■ Yocto Linux

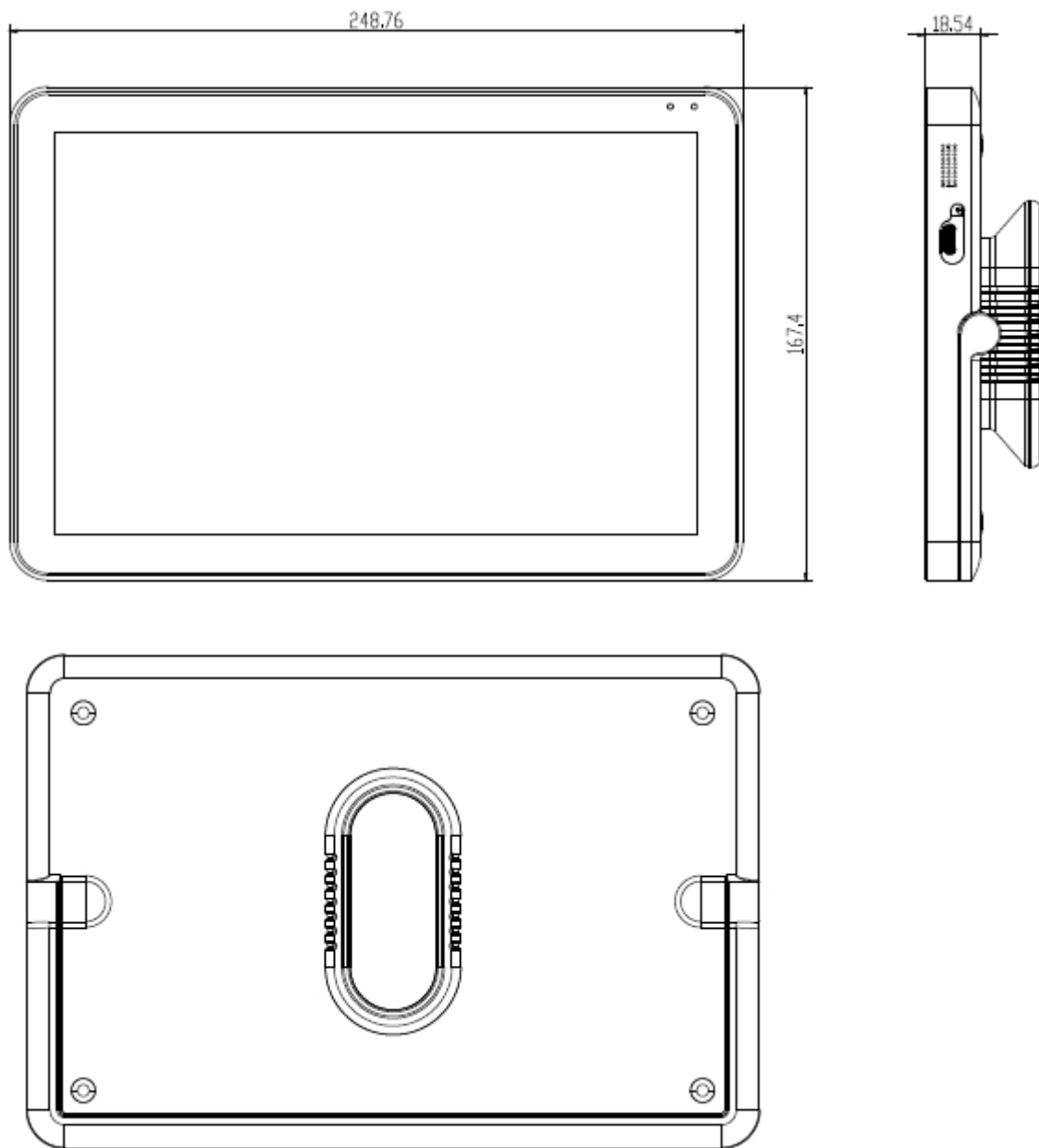
## Specifications

Table 3-2 describes the CPU Board specifications.

Table 3-2 CPU Board specifications

CPU Board Specifications		
System	Processor	Intel® Pentium™, N4200, Quad core, 2.5GHz (Max)
	RAM	LPDDR4 2133MHz (max 8GB )
	ROM	1 x M.2 M-key 2280 SSD Slot (default 256GB)
Display	Resolution	Dual LVDS 1920 x 1200 @ 30Hz
Audio	Audio	2 x Speaker
Peripheral	LAN	1 x 10/100 Ethernet
	Security	1 x TPM
	Button	1 x Standard power
	RTC	Supported
Software	OS	Yocto Linux
Power	Input	20V Power Type-C/docking Input
	Output	20V 1.2A Max.
	Consumption	20W+
Mechanical	Dimensions	248.76 x 167.4mm
	Gross Weight	1.05±0.1KG
Environment Condition	Temperature	Operating: 0℃ ~ 40℃
	Cooling Mode	Fanless
	Approvals	RoHS Compliant
	IP Level	IP64

## Dimensions

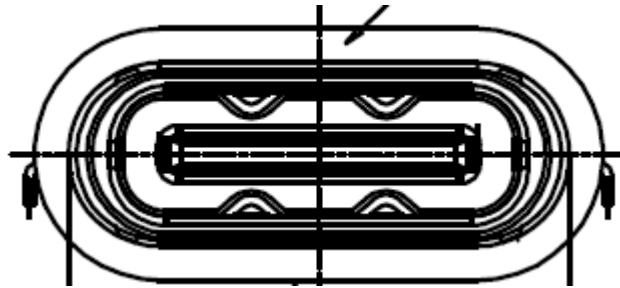


## 4 Interface Description

This chapter describes the hardware features, including switch, jumper, connector and PIN functions.

The interface description is based on the connector sketch map. Necessary information such as pictures are attached.

### Type-C connector

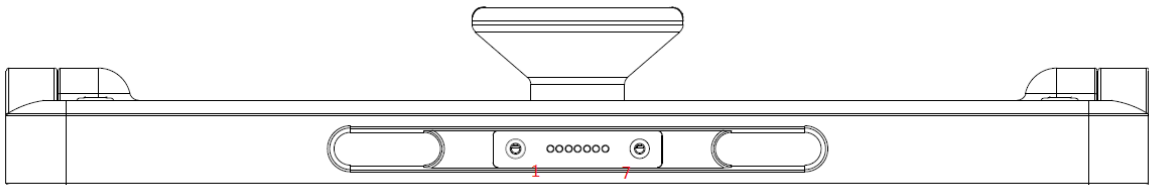


Pin	Name	Type	Description
A1	GND	P	GND
A2	SSTX1_P	P	NC
A3	SSTX1_N	P	NC
A4	VBUS_1	P	POWER 20V
A5	CC1	P	CC1
A6	DP1	P	NC
A7	DM1	P	NC
A8	SBU1	P	NC
A9	VBUS_2	P	POWER 20V
A10	SSRX2_N	P	NC
A11	SSRX2_P	P	NC
A12	GND2	P	GND
B1	GND	P	GND
B2	SSTX2_P	P	NC
B3	SSTX2_N	P	NC

Pin	Name	Type	Description
B4	VBUS_3	P	POWER 20V
B5	CC2	P	CC2
B6	DP2	P	NC
B7	DM2	P	NC
B8	SBU2	P	NC
B9	VBUS_4	P	POWER 20V
B10	SSRX1_N	P	NC
B11	SSRX1_P	P	NC
B12	GND4	P	GND

### POGO pin definition

Table 4-1 and Table 4-2 describe the valid signal of connector on the LNG-PRN-0137 board.



Pin	Name	Type	Description
1	GND	P	GND
2	TX+	P	
3	TX-	P	
4	Power	P	POWER 20V
5	RX-	P	
6	RX+	P	
7	GND	P	GND



## **Hardware Operation Notes**

- a) Power preparation: Please confirm the power input is 20V and the current is 2.25A as recommended.
- b) Our adapter is applicable to this device only. Do not insert any third-party equipment. We do not assume any liabilities for any damages caused therefrom.

## 5 Disposal and Product Warranty

### Disposal

When the device comes to end of life, you are suggested to properly dispose of the device for the sake of the environment and safety.

Before you dispose of the device, please back up your data and erase it from the device.

It is recommended that the device is disassembled prior to disposal in conformity with local regulations. Please ensure that the abandoned batteries are disposed of according to local regulations on waste disposal. Do not throw batteries into fire or put in common waste canister as they are explosive. Products or product packages labeled with the sign of “explosive” should not be disposed of like household waste but delivered to specialized electrical & electronic waste recycling/disposal center.

Proper disposal of this sort of waste helps avoid harm and adverse effect upon surroundings and people’s health. Please contact local organizations or recycling/disposal center for more recycling/disposal methods of related products.

## Warranty

### Product warranty

VANTRON warrants to its CUSTOMER that the Product manufactured by VANTRON, or its subcontractors will conform strictly to the mutually agreed specifications and be free from defects in workmanship and materials (except that which is furnished by the CUSTOMER) upon shipment from VANTRON. VANTRON's obligation under this warranty is limited to replacing or repairing at its option of the Product which shall, within **12 months or 24 months** depending on the Product after shipment, effective from invoice date, be returned to VANTRON's factory with transportation fee paid by the CUSTOMER and which shall, after examination, be disclosed to VANTRON's reasonable satisfaction to be thus defective. VANTRON shall bear the transportation fee for the shipment of the Product to the CUSTOMER.

### Out-of-Warranty Repair

VANTRON will furnish the repair services for the Product which are out-of-warranty at VANTRON's then-prevailing rates for such services. At customer's request, VANTRON will provide components to the CUSTOMER for non-warranty repair. VANTRON will provide this service as long as the components are available in the market; and the CUSTOMER is requested to place a purchase order up front. Parts repaired will have an extended warranty of 3 months.

### Returned Products

Any Product found to be defective and covered under warranty pursuant to Clause above, shall be returned to VANTRON only upon the CUSTOMER's receipt of and with reference to a VANTRON supplied Returned Materials Authorization (RMA) number. VANTRON shall supply an RMA, when required within three (3) working days of request by the CUSTOMER. VANTRON shall submit a new invoice to the CUSTOMER upon shipping of the returned products to the CUSTOMER. Prior to the return of any products by the CUSTOMER due to rejection or warranty defect, the CUSTOMER shall afford VANTRON the opportunity to inspect such products at the CUSTOMER's location and no Product so inspected shall be returned to VANTRON unless the cause for the rejection or defect is determined to be the responsibility of VANTRON. VANTRON shall in turn provide the CUSTOMER turnaround shipment on defective Product within **fourteen (14) working days** upon its receipt at VANTRON. If such turnaround cannot be provided by VANTRON due to causes beyond the control of VANTRON. VANTRON shall document such instances and notify the CUSTOMER immediately.

## FCC compliance statement

this device complies with part 15 of the FCC Rules. Operation is subject to the following

two conditions: (1) this device may not cause harmful interference, and (2) this device

must accept any interference received, including interference that may cause undesired operation.

Note 1: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE 3: Operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

RF exposure information and statement: this device meets government requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health. The SAR limit of USA (FCC) is 1.6W/Kg averaged. Has also been tested against this SAR limit. SAR information on this and other pad can be viewed on-line at

<http://www.fcc.gov/oet/ea/fccid/>. Please use the device FCC ID number for search. To maintain compliance with FCC RF exposure requirements, the use of belt clips, holsters and similar accessories should not contain metallic components in its assembly, the use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided

## ISED Canada compliance statement

this device complies with ISED Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for

harmful interference to co-channel mobile satellite systems.

RF exposure information and statement: This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health. The SAR limit of ISED is 1.6W/Kg averaged. Has also been tested against this SAR limit. To maintain compliance with ISED RF exposure requirements, the use of belt clips, holsters and similar accessories should not contain metallic components in its assembly, the use of accessories that do not satisfy these requirements may not comply with ISED RF exposure requirements, and should be avoided.

Le présent appareil est conforme aux CNR d'ISDE Canada applicables aux appareils radio

exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

La bande 5150–5250 MHz est réservée uniquement pour une utilisation à l'intérieur afin

de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

Information et déclaration sur l'exposition aux RF : Cet équipement est conforme aux limites d'exposition au rayonnement du CNR-102 de l'IC établies pour un environnement non contrôlé. Les lignes directrices sont fondées sur des normes qui ont été élaborées par des organisations scientifiques indépendantes au moyen d'une évaluation périodique et approfondie des études scientifiques. Les normes comprennent une marge de sécurité substantielle conçue pour assurer la sécurité de toutes les personnes, indépendamment de leur âge ou de leur état de santé. La limite SAR d'ISD est de 1.6 W/Kg en moyenne. A également été testé par rapport à cette limite SAR. Pour maintenir la conformité aux exigences d'ISED en matière d'exposition aux RF, l'utilisation de pinces à courroie, d'étuis et d'accessoires similaires ne devrait pas contenir de composants métalliques dans son assemblage, l'utilisation d'accessoires qui ne satisfont pas à ces exigences peut ne pas être conforme aux exigences d'ISED en matière d'exposition aux RF et devrait être évitée.