

VNS-10WR2

10.1" Ultra Slim Panel PC

Quick Reference Guide

1st Ed – 08 March 2024

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Part No. E2017V109A0R

FCC Statement



THIS DEVICE COMPLIES WITH PART 15 FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE.

(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "B" DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

RF exposure warning

This device contains transmitters and receivers which emit Radio Frequency (RF) energy. The device is designed to comply with the limits for exposure to RF energy set by the Federal Communications Commission (FCC) of the United States, Industry Canada (IC) of Canada, and the regulating entities of other countries.

A Message to the Customer

Avalue Customer Services

Each and every Avalue's product is built to the most exacting specifications to ensure reliable performance in the harsh and demanding conditions typical of industrial environments. Whether your new Avalue device is destined for the laboratory or the factory floor, you can be assured that your product will provide the reliability and ease of operation for which the name Avalue has come to be known.

Your satisfaction is our primary concern. Here is a guide to Avalue's customer services. To ensure you get the full benefit of our services, please follow the instructions below carefully.

Technical Support

We want you to get the maximum performance from your products. So if you run into technical difficulties, we are here to help. For the most frequently asked questions, you can

Quick Reference Guide

easily find answers in your product documentation. These answers are normally a lot more detailed than the ones we can give over the phone. So please consult the user's manual first.

To receive the latest version of the user's manual; please visit our Web site at:

<http://www.avalue.com.tw/>

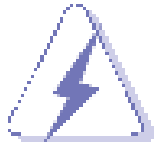
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1. Getting Started

1.1 Safety Precautions

Warning!



Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Caution!

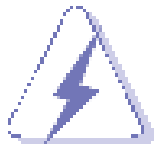


Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions.

Français:

Attention!



Débranchez le câble d'alimentation de votre châssis chaque fois que vous travaillez avec le matériel. Ne faites pas de connexion lorsque le système est allumé. Les composants électroniques sensibles peuvent être endommagés par les surtensions soudaines. Seule les personnels expérimentés de l'électronique peuvent ouvrir le châssis du PC.

Précaution!

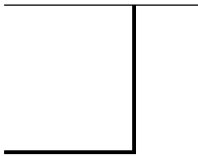


Il faut toujours mettre à la masse pour éliminer l'électricité statique avant de toucher la carte CPU. Les appareils électroniques modernes sont très sensibles aux électricité statique. Pour des raisons de sécurité, utilisez un bracelet électrostatique. Placez tous les composants électroniques sur une surface antistatique ou dans un sac antistatique quand ils ne sont pas dans le châssis.

Risque d'explosion si la batterie est remplacée par un type incorrect. Jetez les piles usagées selon les instructions

1.2 Packing List

- 1 x VNS-10WR2
- 1 x AC/DC adapter 12V/5A 90 Screw Type (Option)
- 1 x power cord (Option)



If any of the above items is damaged or missing, contact your retailer.

1.3 System Specifications

Component	
CPU	CPU Rockchip RK3568 Quad-core Cortex-A55 up to 2.0GHz
CPU Cooler (Type)	Heatsink
Memory, eMMC	4GB LPDDR4 /64GB eMMC
LCD	10.1" LVDS LCD
Touch	10.1" Touch
Power Supply	DC Input, 12~24V Optional Powered LAN (802.3at)
Touch button	Touch button (Power/ Brightness/ Volume/ LED)
NFC	NFC
Speaker	Speaker x2 (2W/4 ohm)
Camera	Camera with D-MIC
MIC	A-MIC
Wireless LAN	WI-FI 802.11ac/a/b/g/n, BT 5.0
Operating System	Support Android 11, Linux Debain 11
Panel	
LCD Panel	10.1" Panel
Touch Screen	10.1" Touch
External I/O	
DC Jack	DC Jack with lock x1
Serial Port	RJ45x1 for RS232, RS485
USB Port	USB type A 3.0 x2
LAN Port	RJ45 for Gigabit LAN x1 (with LED)
Audio Port	Audio Jack x1 4-ring
Mechanical	
Power Type	DC Input, 12~24V
Power Connector Type	DC jack or Optional Powered LAN (802.3at)
Dimension	270 x 193 x 28 mm
Weight	1.1kg
Fanless	Yes
OS Support	Android 11, Debain 11
Reliability	
EMI Test	CE, FCC Class B
ESD	Air 8Kv / Contact 4Kv
Vibration Test	Sine Vibration test (Non-operation) Reference IEC60068-2-6 Testing procedures. Test Fc : Vibration sinusoidal

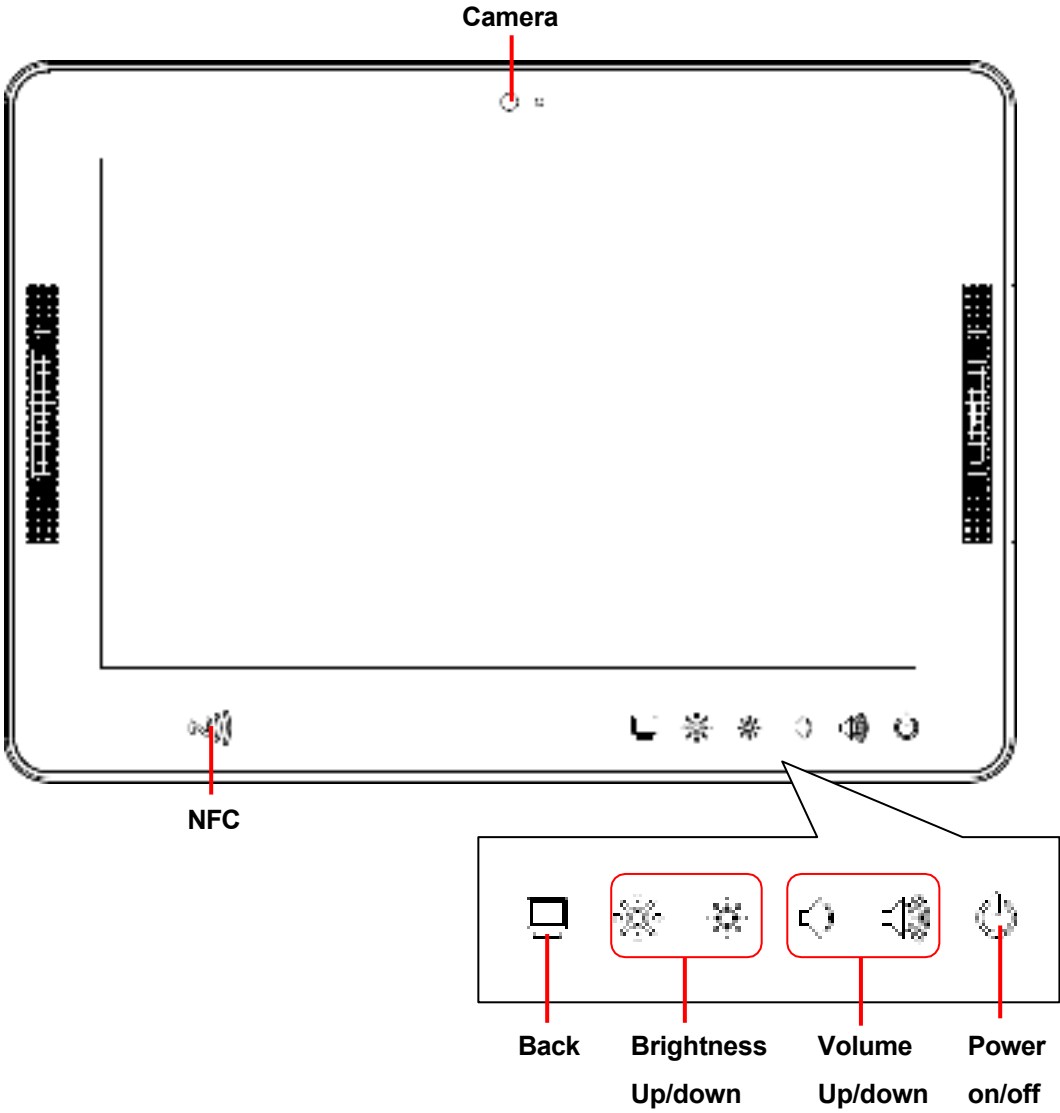
	1. Test Acceleration : 2G 2. Test frequency : 5~500 Hz 3. Sweep : 1 Oct/ per one minute. (logarithmic) 4. Test Axis : X,Y and Z axis 5. Test time :30 min. each axis 6. System condition : Non-Operating mode Package Vibration Test Reference IEC60068-2-64 Testing procedures Test Fh : Vibration boardband random Test 1. PSD: 0.026G²/Hz , 2.16 Grms 2. Non-operation mode 3. Test Frequency : 5-500Hz 4. Test Axis : X,Y and Z axis 5. 30 min. per each axis Random Vibration Operation Reference IEC60068-2-64 Testing procedures Test Fh : Vibration boardband random Test 1. PSD: 0.00454G²/Hz , 1.5 Grms 2. Operation mode 3. Test Frequency : 5-500Hz 4. Test Axis : X,Y and Z axis 5. 30 minutes per each axis 6. IEC 60068-2-64 Test:Fh
Mechanical Shock Test	Bump Test Reference IEC 60068-2-29 Testing procedures Test Eb : Bump Test 1. Wave form : Half Sine wave 2. Acceleration Rate : 10g for operation mode 3. Duration Time : 11ms 4. No. of Shock : Z axis 300 times 5. Test Axis: Z axis 6. Operation mode
Drop Test	1. One corner , three edges, six faces 2. ISTA 2A, IEC-60068-2-32 Test:Ed
Operating Temperature	0°C ~ 45°C
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
Storage Temperature	-10°C ~ 60°C



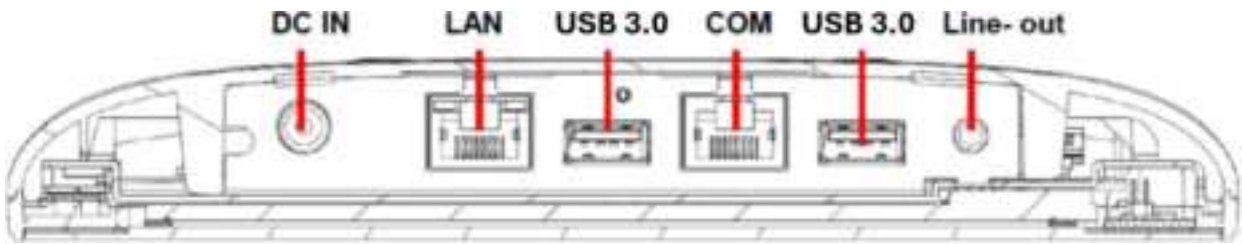
Note: Specifications are subject to change without notice.

1.4 System Overview

1.4.1 Front View



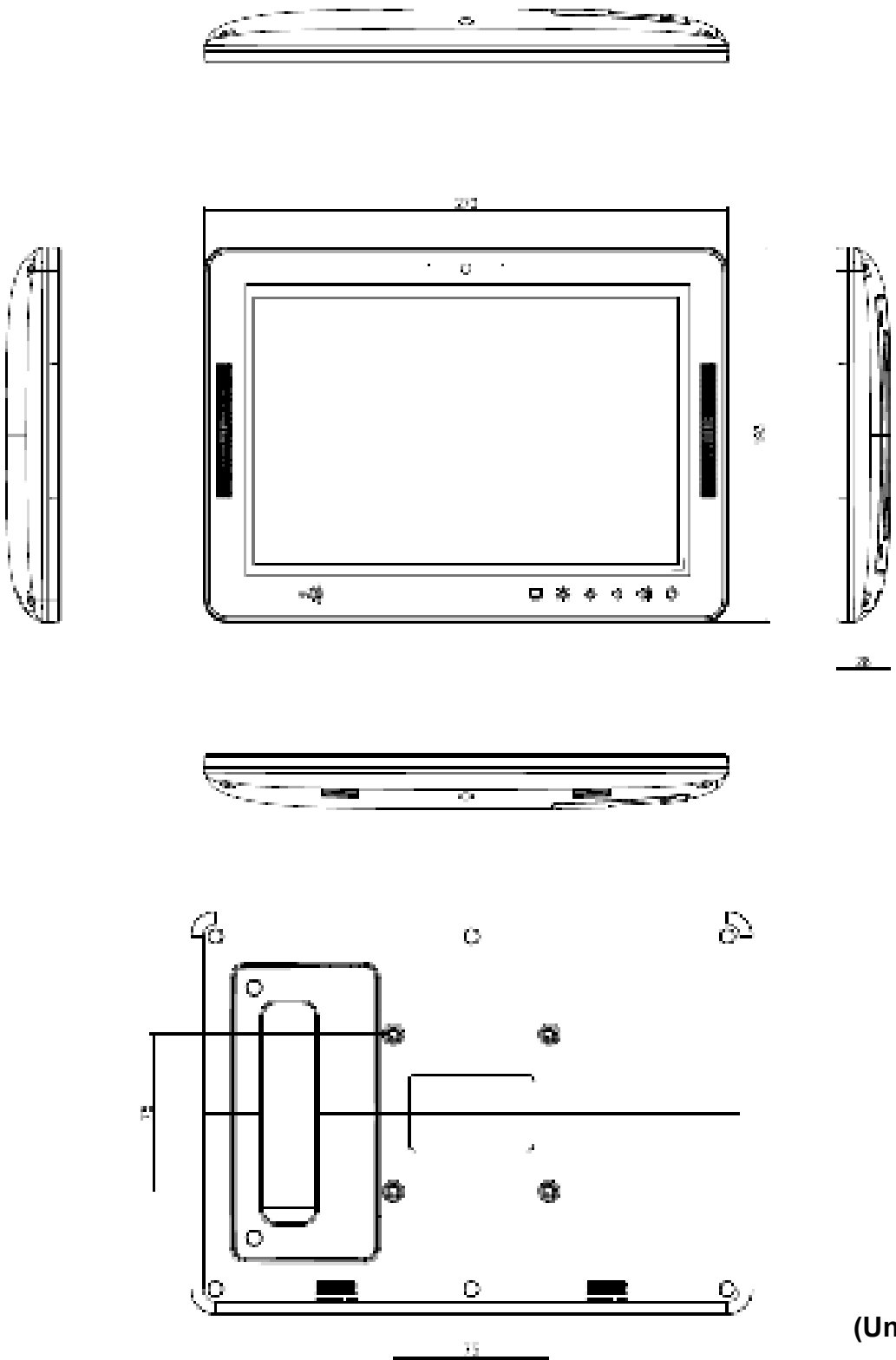
1.4.2 Rear View



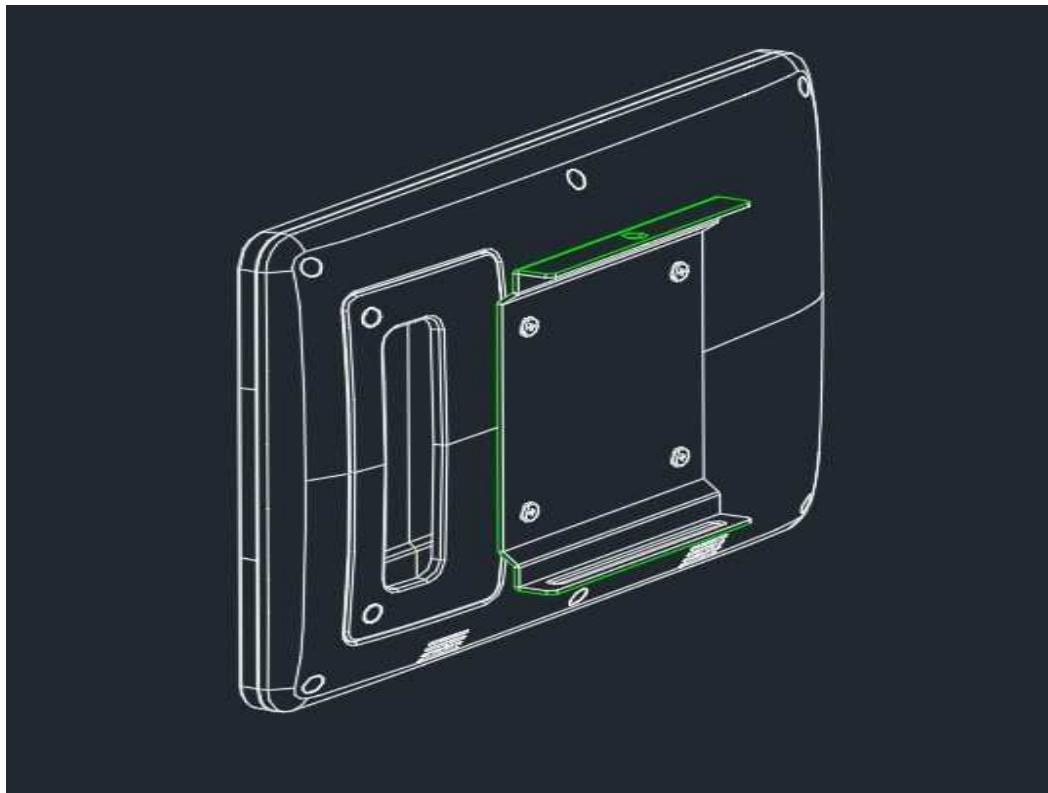
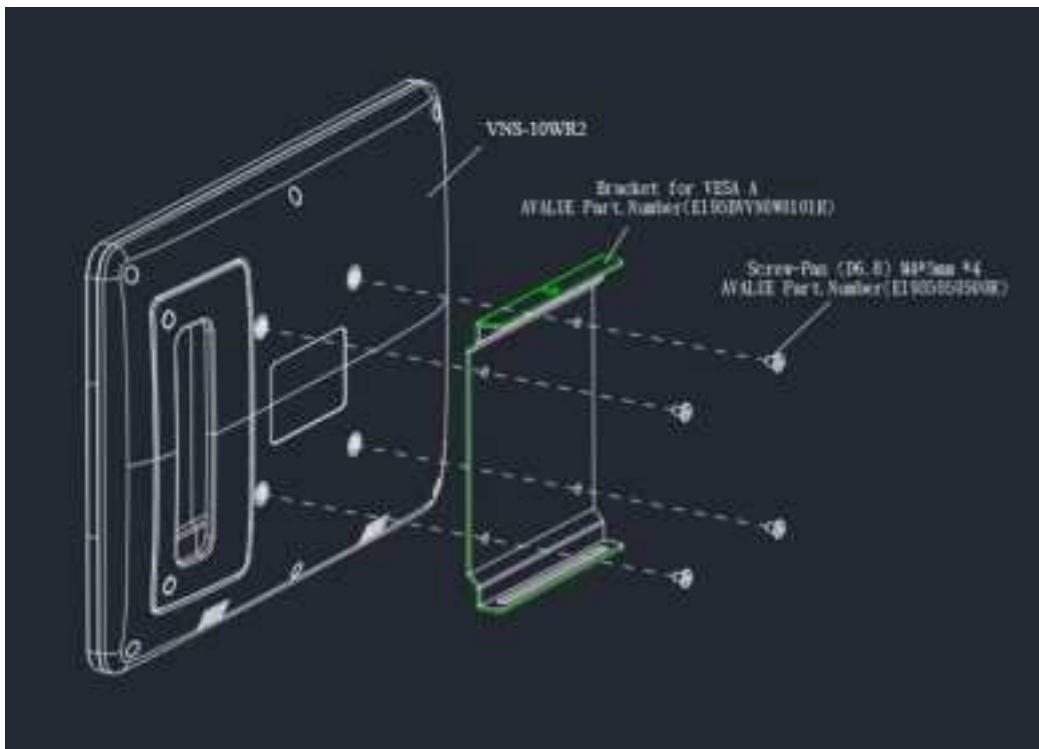
Connectors

Label	Function	Note
DC IN	DC-IN power connector	
LAN	RJ-45 Ethernet	
COM	Serial port connector	
USB	2 x USB 3.0 connector	
Line-out	Line-out audio jack	

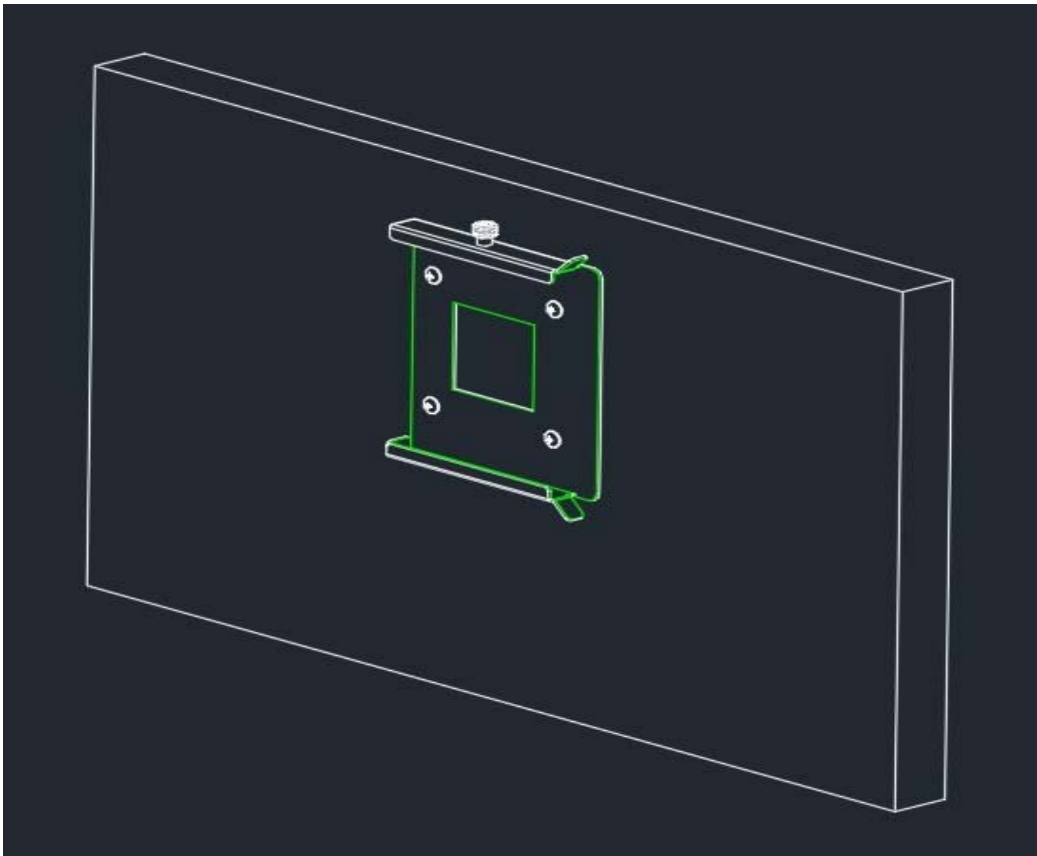
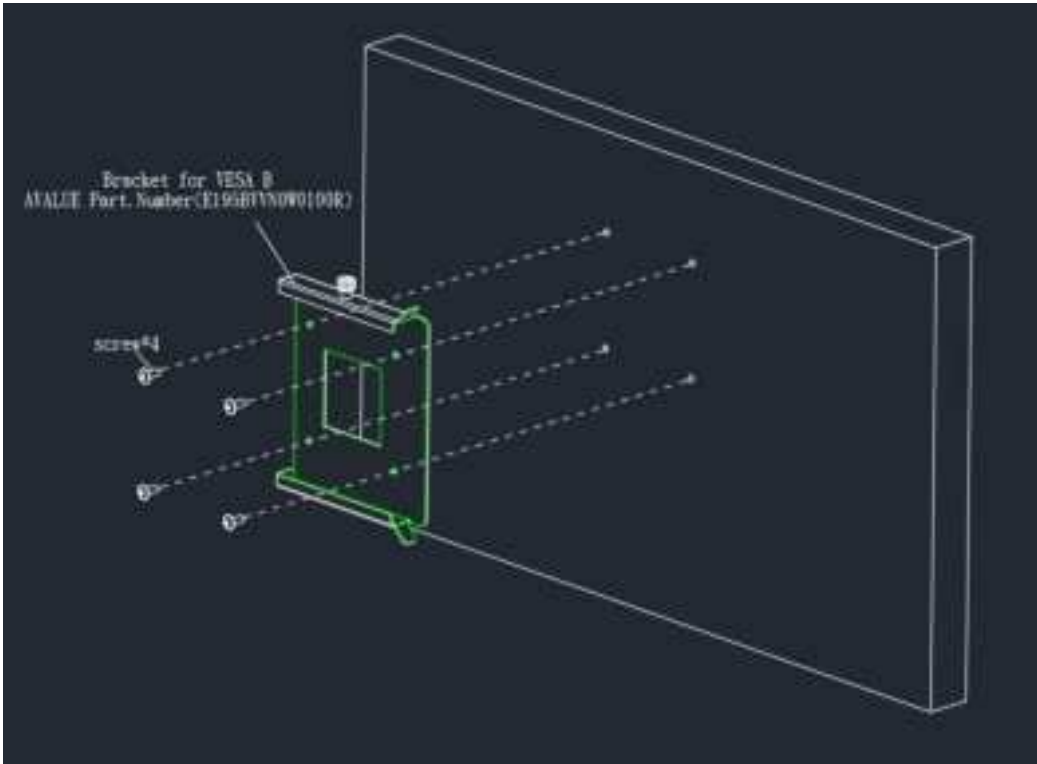
1.5 System Dimensions



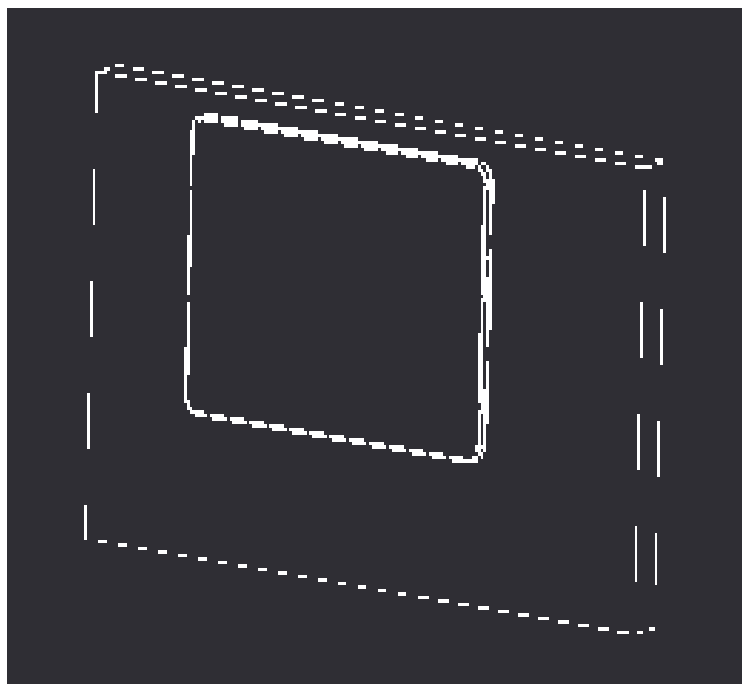
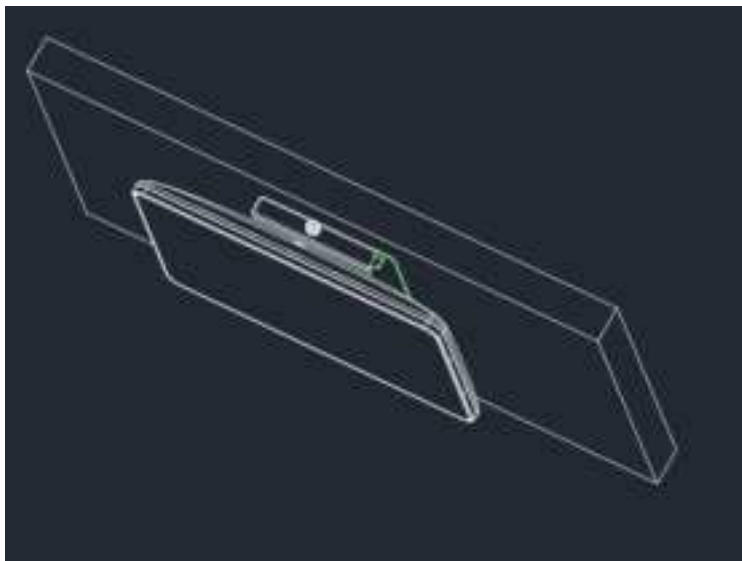
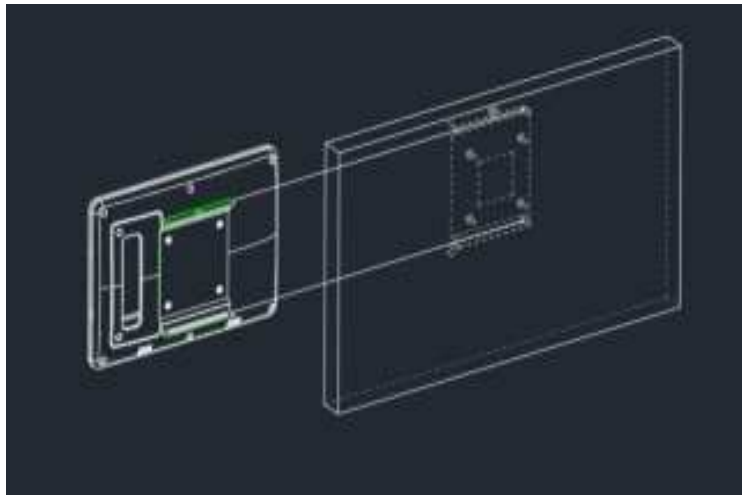
1.6 VESA Mounting



Step1. Insert and fasten 4 screws on each side of VNS-10WR2 to secure VESA Mount.



Step2. Insert and fasten 4 screws on each side of the monitor to secure VESA Mount.



Step3. Slide VNS-10WR2 onto the Monitor.

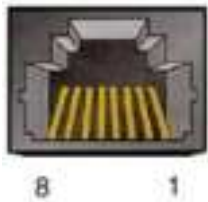
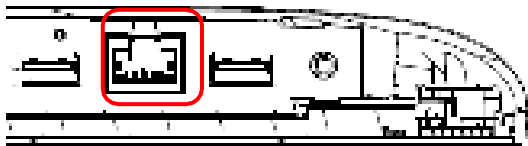
2. Hardware Configuration



Note: If you need more information, please visit our website:
<http://www.avalue.com.tw>

2.1 VNS-10WR2 connector mapping

2.1.1 Serial port connector (COM)



RS-485	
Signal	PIN
DATA-	1
DATA+	2
NC	3
NC	4
NC	5
NC	6
NC	7
GND	8

RS-232	
Signal	PIN
NC	1
NC	2
RXD	3
TXD	4
NC	5
NC	6
NC	7
GND	8

2.2 Cleaning and Disinfecting

During normal use of VNS-10WR2, the device may become dirty and should be regularly cleaned.

Cleaning Instructions

1. Turn off the computer before starting clean up. This way, you can see any dirt on the screen; the brightness of the monitor may make you miss some areas.
2. Wet a soft, lint-free or microfiber cloth with cleaning agent per manufacturer's instructions or hospital protocol. Wipe the VNS Panel PC in a gentle motion to remove dust, oil, or fingerprint smudges.
3. Wipe any moisture excess with a dry lint-free cloth to finish cleaning before turning the computer back on.

Cleaning Tools

Below is a list of some items that may be needed or used when cleaning the VNS Panel PC or VNS Panel PC peripherals.

Please keep in mind that some components in VNS Panel PC components may only be cleaned using a product designed for cleaning that component.

Cleaning agent list: chemical disinfectants which have been tested on the VNS Panel PC

No. Cleaning agent

1. Water
2. Alcohol 75%

Caution!



- *Do not immerse or rinse the VNS Panel PC or its peripherals. If you accidentally spill liquid on the device, disconnect the unit from the power source. Contact your Biomed Department regarding the continued safety of the unit before placing it back in operation.*
- *Do not spray cleaning agent on the chassis.*
- *Do not use disinfectants that contain phenol. Do not autoclave or clean the VNS Panel PC or its peripherals with strong aromatic, chlorinated, ketone, ether, or Esther solvents, sharp tools or abrasives. Never immerse electrical connectors in water or other liquids.*

3. LED Instruction



Note: If you need more information, please visit our website:
<http://www.avalue.com.tw>

3.1 For Android 11 LED instruction

3.1.1 Android Sample code

```
// Color value 0 to 255
int red=255;
int green=255;
int blue=255;

Intent intent = new Intent();
intent.setAction("acp.rk3568.leds.set");

//put extra int
intent.putExtra( name: "red",red);
intent.putExtra( name: "green",green);
intent.putExtra( name: "blue",blue);

context.sendBroadcast(intent);
```

3.2 For Debian 11 LED instruction

3.2.1 LED RGB display handle file

User can access the each LED color by access the handle file in below. Maximum value of each color brightness is 255, minimum is 0. A simple example to demonstrate how to turn LED ON/OFF show in next section.

LED index	Color	File path
1	R	/sys/class/leds/L3/brightness
	G	/sys/class/leds/L2/brightness
	B	/sys/class/leds/L1/brightness
2	R	/sys/class/leds/L6/brightness
	G	/sys/class/leds/L5/brightness
	B	/sys/class/leds/L4/brightness
3	R	/sys/class/leds/L9/brightness
	G	/sys/class/leds/L8/brightness
	B	/sys/class/leds/L7/brightness
4	R	/sys/class/leds/L12/brightness
	G	/sys/class/leds/L11/brightness
	B	/sys/class/leds/L10/brightness
5	R	/sys/class/leds/L15/brightness

	G	/sys/class/leds/L14/brightness
	B	/sys/class/leds/L13/brightness
6	R	/sys/class/leds/L19/brightness
	G	/sys/class/leds/L18/brightness
	B	/sys/class/leds/L17/brightness
7	R	/sys/class/leds/L22/brightness
	G	/sys/class/leds/L21/brightness
	B	/sys/class/leds/L20/brightness
8	R	/sys/class/leds/L25/brightness
	G	/sys/class/leds/L24/brightness
	B	/sys/class/leds/L23/brightness
9	R	/sys/class/leds/L28/brightness
	G	/sys/class/leds/L27/brightness
	B	/sys/class/leds/L26/brightness

3.2.2 Example of LED control

Below step showing how to turn ON/OFF the LED 1 color blue

step.1 open the terminal prompt

step.2 type in below script, LED 1 should be ON and the color will be blue.

```
sudo echo 200 > /sys/class/leds/L1/brightness
```

step.3 type in below script, LED 1 should be OFF

```
sudo echo 0 > /sys/class/leds/L1/brightness
```

