

SID-21WR1

21.5" Panel PC with Rockchip RK3288 SoC, 2G RAM, 16G eMMC

Quick Reference Guide

1st Ed –17 February 2022

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Federal Communication Commission Interference 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 UNDESIRE OPERATION.

Note: 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 instruction, 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.

Notice:

- (1) A Unshielded-type power cord is required in order to meet FCC emission limits and also to prevent interference to the nearby radio and television reception. It is essential that only the supplied power cord be used.
- (2) Use only shielded cables to connect I/O devices to this equipment.
- (3) Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement

This Wireless LAN radio device has been evaluated under FCC Bulletin OET 65 and found compliant to the requirements as set forth in CFR 47 Sections 2.1091, 2.1093, and 15.247 (b) (4) addressing RF Exposure from radio frequency devices. The radiated output power of this Wireless LAN device is far below the FCC radio frequency exposure limits. Nevertheless, this device shall be used in such a manner that the potential for human contact during normal operation is minimized. When nearby persons has to be kept to ensure RF exposure compliance, in order to comply with RF exposure limits established in the ANSI C95.1 standards, the distance between the antennas and the user should not be less than 20 cm.

WARNING

“CAUTION – Use suitable mounting apparatus to avoid risk of injury.”

“CAUTION - Use a power cord that matches the voltage of the power outlet, which has been approved and complies with the safety standard of your particular country.”

“WARNING – To avoid risk of electric shock, this equipment must only be connected to a supply mains with protective earth.”

Notice

This guide is designed for experienced users to setup the system within the shortest time. For detailed information, please always refer to the electronic user's manual.

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As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into body, or (b) support or sustain life and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

A Message to the Customer

Avalue Customer Services

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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 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.

1.2 Packing List

- 1 x SID-21WR1 Panel PC
- 1 x AC/DC adapter 12V/5A 90 Screw Type
- 1 x Power cord
- 1 x WiFi Antenna
- 4 x Screw-Flat M4* 4mm



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

1.3 System Specifications

Component	
Mother Board	ACP-RK3288B
CPU	RockChip RK3288-W Cortex-A17, Quad Core 1.8GHz
CPU Cooler (Type)	Aluminum type w/ Shielding cover
Memory	2GB DDR3L on board
Power Supply	DC-in 12V~24V wide voltage DC input support
Adapter	AC/DC adapter 12V/5A, screw type
Wireless LAN	802.11 b/g/n Wireless LAN on board
Bluetooth	Bluetooth 4.0 on board
Operating System	Android 8.1 , Debian 9 (TBD)
Storage	
Solid State Drive	16GB eMMC on board (F-R SanDisk SDINBDG4-16G 16G FBGA153 SMD)
Panel	
LCD Panel	21.5" Innolux M215HJJ-L30 1920 x 1080
Touch Screen	21.5" Sense
Touch Controller	EETI 84H5680
External I/O	
Serial Port	1 x DB9 for RS-232(Tx/Rx, Default)
USB Port	2 x USB 2.0 ports (Type A), Option 3th USB 2.0 port
Video Port	1 x HDMI 2.0 port (Type A)
Audio Port	1 x Line out jack (Audio/Green)
LAN Port	1 x Gigabit Ethernet (RJ-45 connector)
Wireless LAN Antenna	1 x Dipole Antenna
Switch	1x Power button w/ LED
Others	1 x Reset button
Power Requirement/Mechanical	
Power Type	12V~24V wide voltage DC input
Power Connector Type	2.5mm DC-in jack
Dimension	509 x 304.8 x 51.3 mm
Weight	7.2 kg
Color	Black
Fanless	Yes
OS Support	Android 8.1 , Debian 9 (TBD)

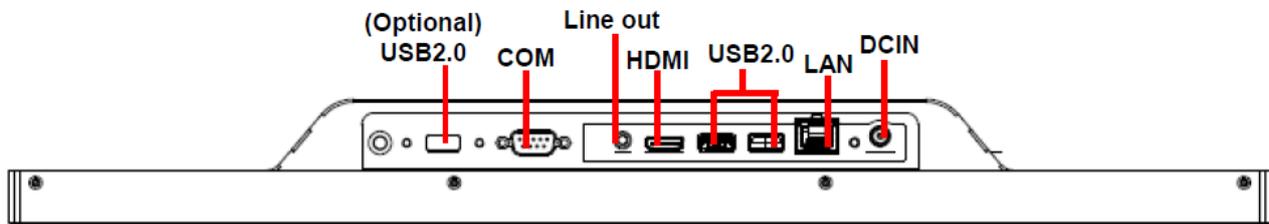
Reliability	
EMI Test	CE/FCC Part 15, Subpart B
Safety	IEC-62368-1 & EN62368-1
Dust and Rain Test	Front Panel IP65
Random Vibration Test	<p>Test Standard: Reference IEC60068-2-64 Testing procedures</p> <ol style="list-style-type: none"> 1. System condition: Operation mode 2. PSD: 0.00454G²/Hz , 1.5 Grms 3. Test Frequency : 5-500Hz 4. Test Axis : X,Y and Z axis 5. Test time: 30 minutes per each axis <p>Storage : eMMC</p>
Sine Vibration Test (Non-operation)	<p>Test Standard: Reference IEC60068-2-6 Testing procedures</p> <ol style="list-style-type: none"> 1. System condition : Non-Operating mode 2. Test Acceleration : 2G 3. Test frequency : 5~500 Hz 4. Sweep : 1 Oct/ per one minute. (logarithmic) 5. Test Axis : X,Y and Z axis <p>Test time :30 min. each axis</p>
Mechanical Shock Test	<p>Test Standard: Reference IEC60068-2-29 Testing procedures</p> <ol style="list-style-type: none"> 1. System Condition: Operation 2. Wave form: Half-Sine wave 3. Acceleration: Rate: 10g 4. Duration: Time: 11ms 5. No. of Shock: Z axis 300 times <p>Test Axis: Z axis</p>
Drop Test	<p>Reference ISTA 2A, Method: IEC-60068-2-32 Test:Ed</p> <ol style="list-style-type: none"> 1. Test Phase: One comer, three edges, six faces 2. Packing weight: around 1.5kg <p>Test high: 96.5cm (Based on product weight)</p>
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)



Note: Specifications are subject to change without notice.

1.4 System Overview

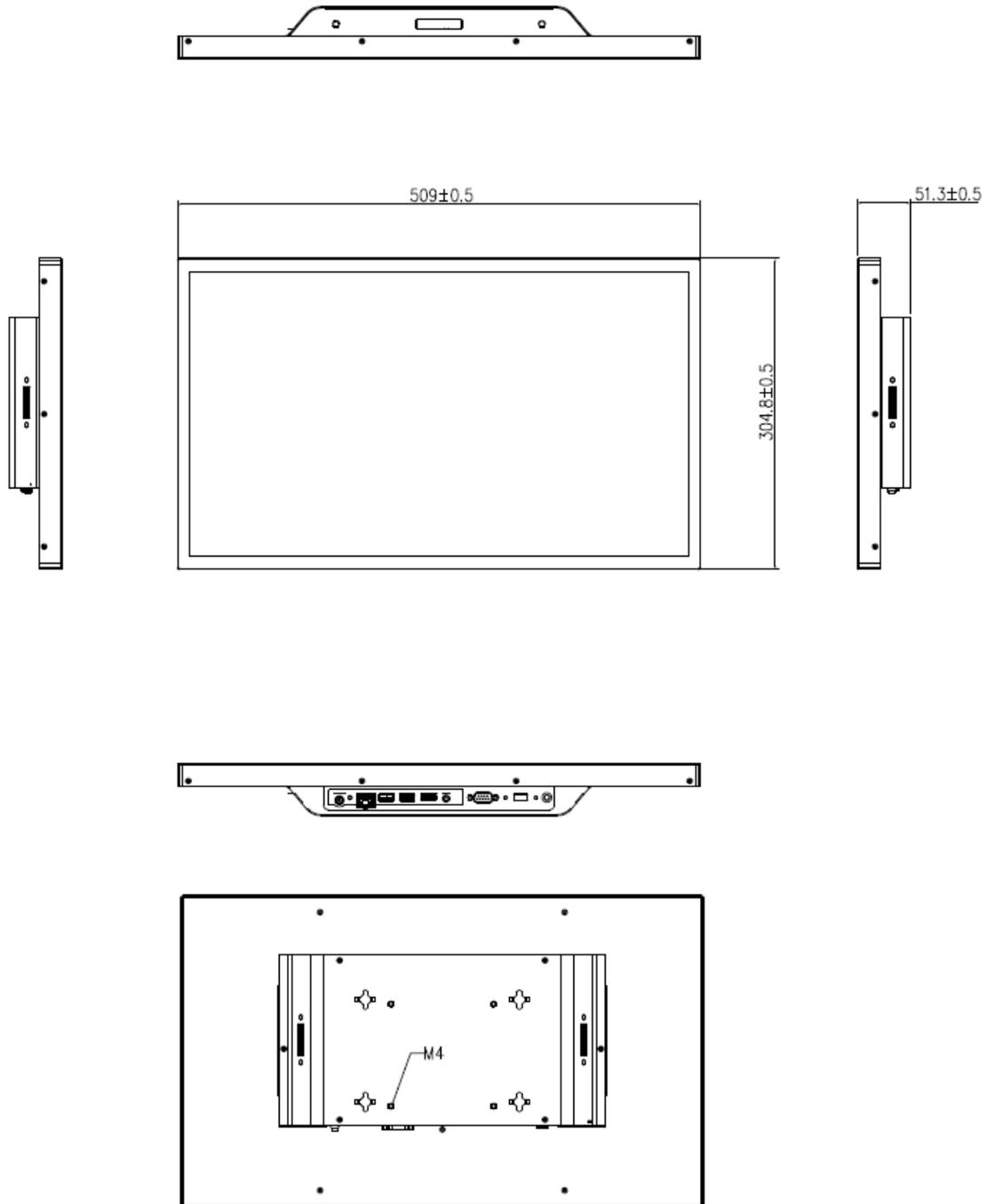
1.4.1 I/O View



Connectors

Label	Function	Note
Line out	Audio line-out connector	Head phone jack
HDMI	HDMI connector	HDMI type A
USB2.0	2 x USB2.0 connector	USB type A
DCIN	DC power-in connector	DC jack
LAN	RJ-45 Ethernet connector	
COM	Serial port connector	DB-9 male connector

1.5 System Dimensions



(Unit: mm)

2. Hardware Configuration

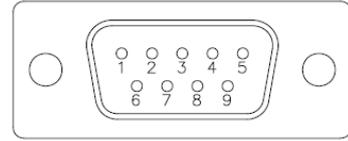
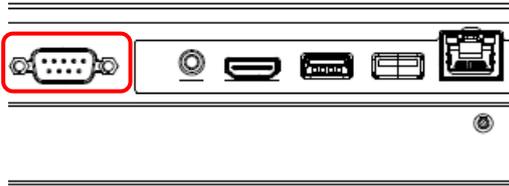


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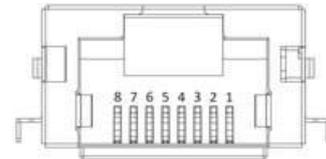
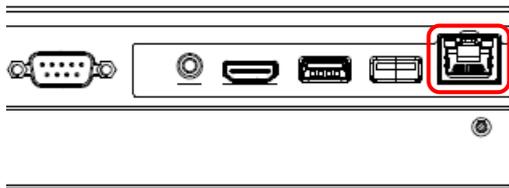
2.1 SID-21WR1 connector mapping

2.1.1 Serial port connector (COM)



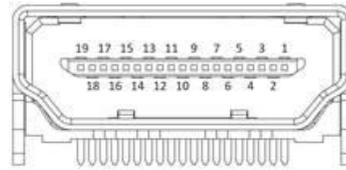
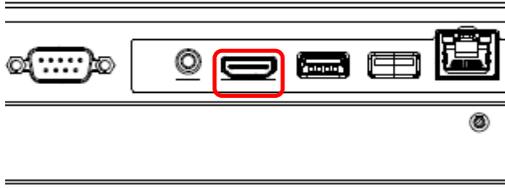
Signal	PIN	PIN	Signal
NC	1	6	NC
RX	2	7	RTS
TX	3	8	CTS
NC	4	9	NC
GND	5		

2.1.2 RJ-45 Ethernet connector (LAN)



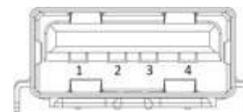
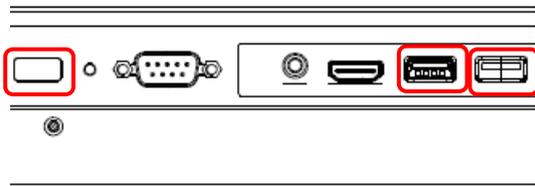
Signal	PIN
LAN_MDIO+	1
LAN_MDIO-	2
LAN_MDIO1+	3
LAN_MDIO2+	4
LAN_MDIO2-	5
LAN_MDIO1-	6
LAN_MDIO3+	7
LAN_MDIO3-	8

2.1.3 HDMI connector (HDMI)



Signal	PIN	PIN	Signal
HDMI_P2	1	2	GND
HDMI_N2	3	4	HDMI_P1
GND	5	6	HDMI_N1
HDMI_P0	7	8	GND
HDMI_N0	9	10	HDMI_CLKP
GND	11	12	HDMI_CLKN
NC	13	14	NC
HDMI_CTRL_CLK	15	16	HDMI_CTRL_DAT
GND	17	18	5V
HPD	19		

2.1.4 USB2.0 connector (USB2.0)



Signal	PIN
VCC	1
Data-	2
Data+	3
GND	4

