RIVAR-1502

15.6” Panel PC with Intel® Apollo Lake J3455 1.50 GHz

Quick Reference Guide

1st Ed – 26 January 2022

Part No. E2017R520A0R

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 UNDESIRED OPERATION.

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "A" 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 INSTATLLED 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.

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 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/

Content

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 RIVAR-1502
- 1 x Power Adapter
- 1 x Power Cord

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

1.3 System Specifications

Component	
Mother Board	Intel® Celeron® Apollo Lake Platform
CPU	Intel® Celeron® Processor J3455
CPU Cooler (Type)	Fanless
Memory	Onboard LPDDR4 4GB
Adapter	DC 24V/2.5A 60W 180 Screw Type
Speaker	2 x 2W Speaker on back
Camera	Option 2.0M CMOS, USB2.0
Wireless LAN	Option IEEE 802.11 a/b/g/n/AC
Bluetooth	Option Bluetooth 4.0 + Class 1
NFC	Option NFC module support ISO 14443 A and B, ISO/IEC 18092, MIFARE, FeliCa
Storage	
Hard Disk Drive	1 x SATA connector for 2.5” Storage
Solid State Drive	Onboard 128G eMMC
Panel	
LCD Panel	15.6” 1920 x 1080 Full HD 300nits
Touch Screen	15.6” 10 points Capacitive touch
External I/O	
USB Port	4 x USB3.0
Serial Port	2 x RS-232
HDMI Port	1 x HDMI Port
LAN Port	2 x RJ45 Gigabit LAN
Switch	1 x Power button
Indicator Light	1 x Power LED
Mechanical	
Power Type	ATX Mode, +24V DC-In
Power Connector Type	DC-Jack
Dimension	390.83 x 247.33 x 42mm
Weight	2.4Kg
Color	Black, White
OS Support	Windows 10 IoT 64bit
Reliability	
EMI Test	CE/FCC Class B, VCCI
Safety	All design for this project have to comply with UL / CB / CCC
Dust and Rain	Front IP65

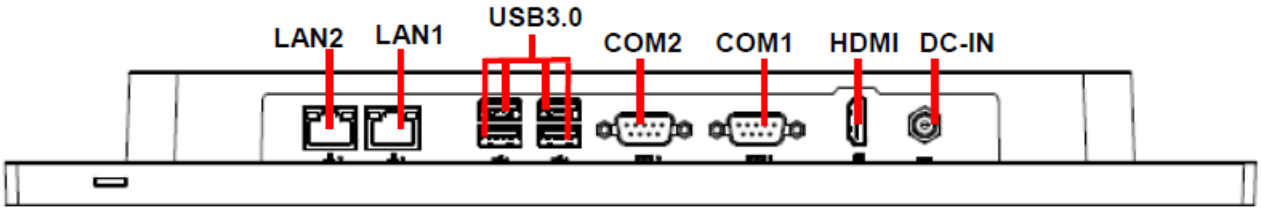
Test	
Vibration Test	Random Vibration Operation 1 Test PSD : 0.00454G²/Hz , 1.5 Grms 2 System condition : operation mode 3 Test frequency : 5~500 Hz 4 Test axis : X,Y and Z axis 5 Test time : 30 minutes per each axis 6 IEC60068-2-64 Test Fh 6 Storage : mSATA Sine Vibration test (Non-operation) 1 Test 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 7. Reference IEC 60068-2-6 Testing procedures Package Vibration Test: 1 Test PSD : 0.026G²/Hz , 2.16 Grms 2 Test frequency : 5~500 Hz 3 Test axis : X,Y and Z axis 4 Test time : 30 minutes per each axis 5 IEC 60068-2-64 Test Fh
Mechanical Shock Test	1 Wave from : 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 7 Reference IEC 60068-2-27 testing procedures Test Eb : Shock Test
Drop Test	Package drop test Reference ISTA 2A, Method : IEC-60068-2-32 Test:Ed Test Ea : Drop Test 1 Test phase : One corner, three edges, six faces 2 Test high : 96.5cm 3 Package weight : 3.5Kg 4 Test drawing

Operating Temperature	0°C ~ 40°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

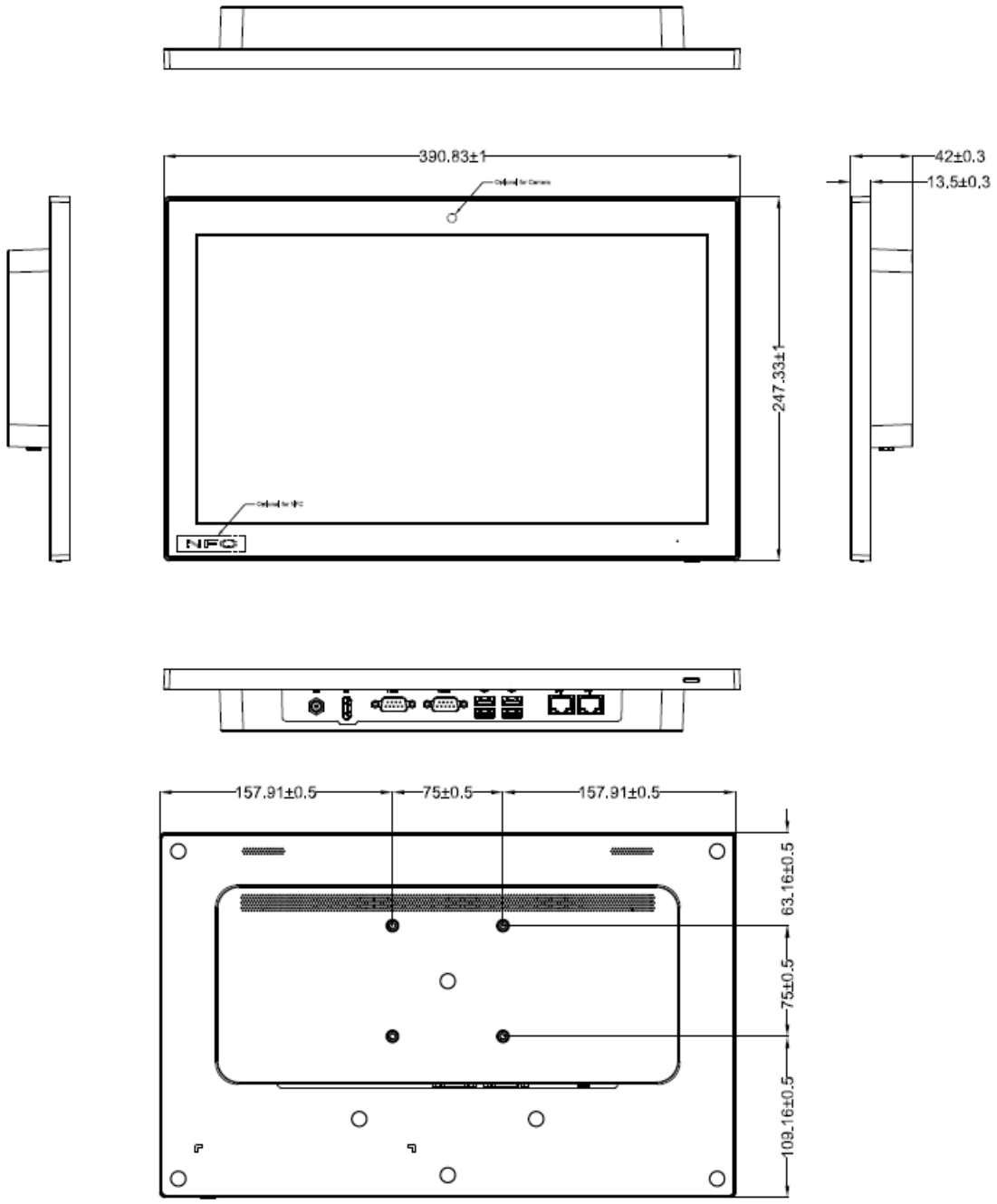
1.4.1 Bottom View



Connectors

Label	Function	Note
LAN1/2	RJ-45 Ethernet connector 1/2	
DC-IN	DC Power-in connector	
HDMI	HDMI connector	
USB	4 x USB 3.0 connector	
COM1/2	Serial Port 1/2 connector	DB-9 male connector

1.5 System Dimensions



(Unit: mm)

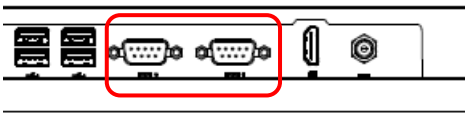
2. Hardware Configuration

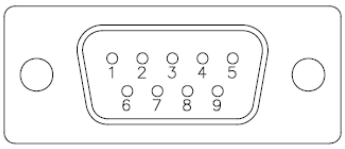
Note: If you need more information, please visit our website:

http://www.avalue.com.tw

2.1 RIVAR-1502 connector mapping

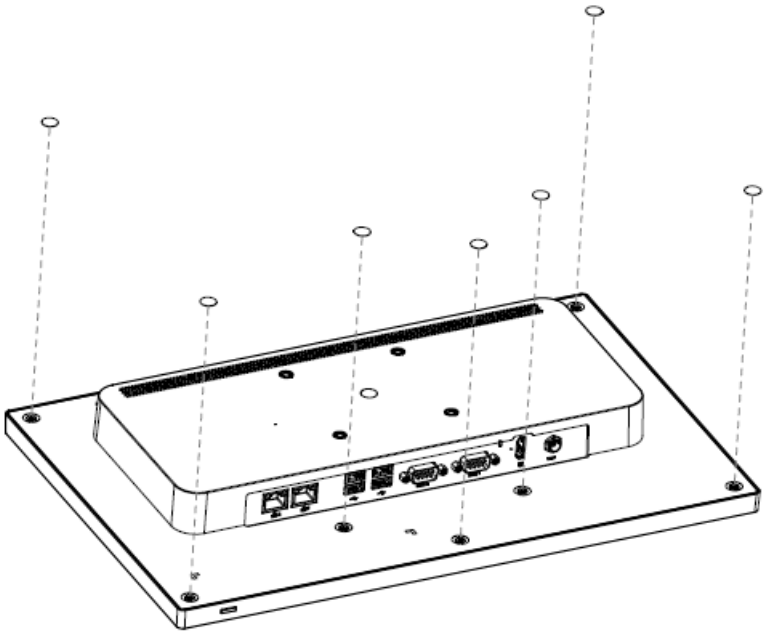
2.1.1 Serial Port 1/2 connector (COM1/2)



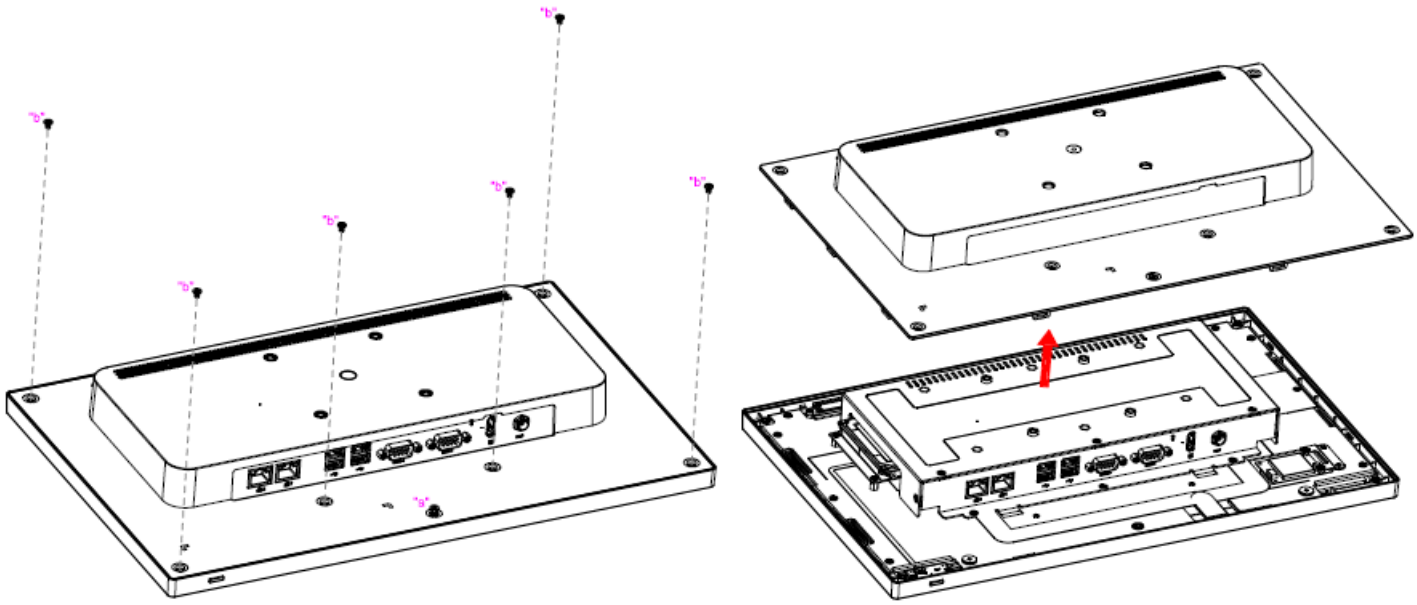


Signal	PIN	PIN	Signal
DCDA#	1	6	DSRA#
RXDA	2	7	RTSA#
TXDA	3	8	CTSA#
DTRA#	4	9	RIA#
GND	5		

2.2 Installing 2.5” HDD + NFC + Camera

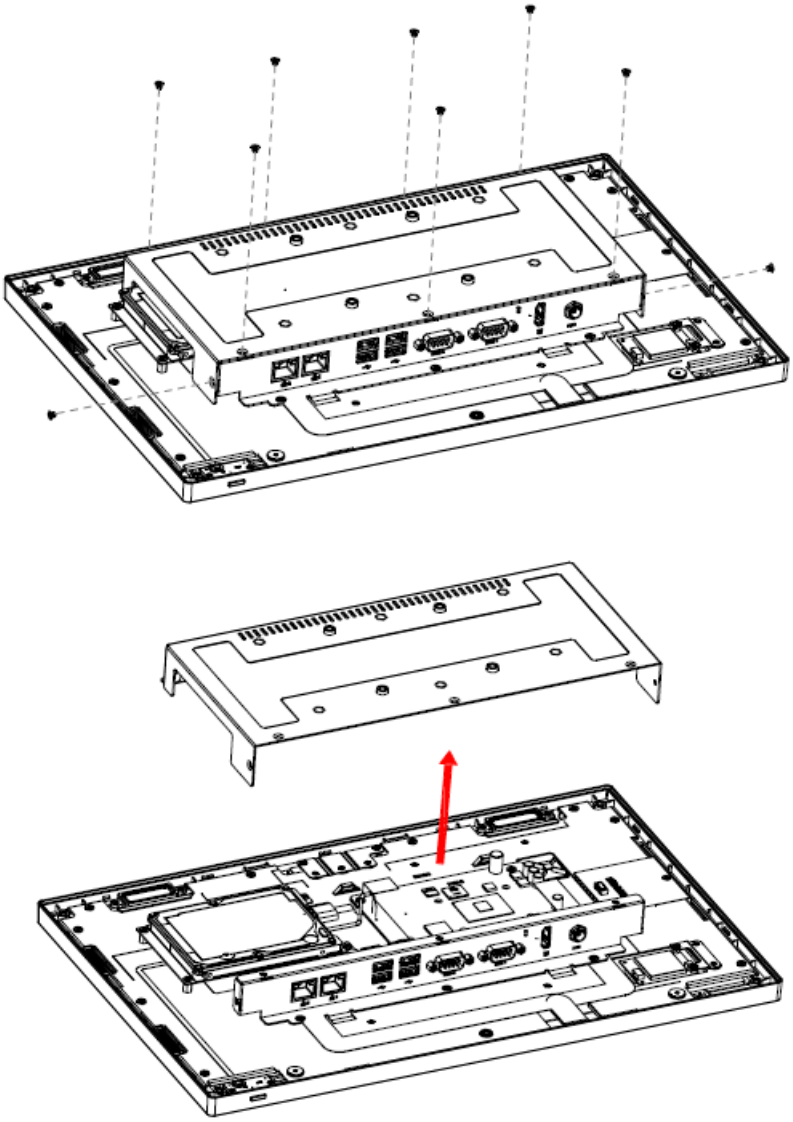


Step 1. Remove 7 Screw Mylar from the panel.

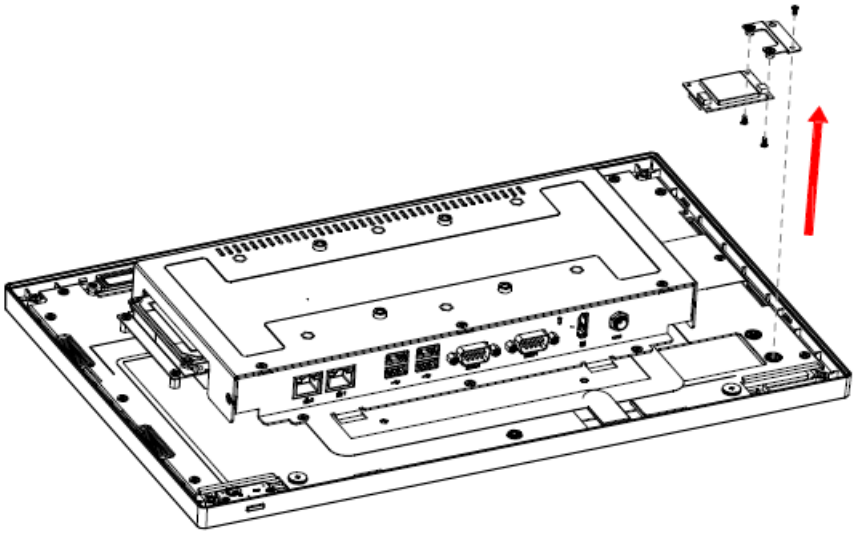


Step 2-1 Unfasten screw (“a”) from the panel.

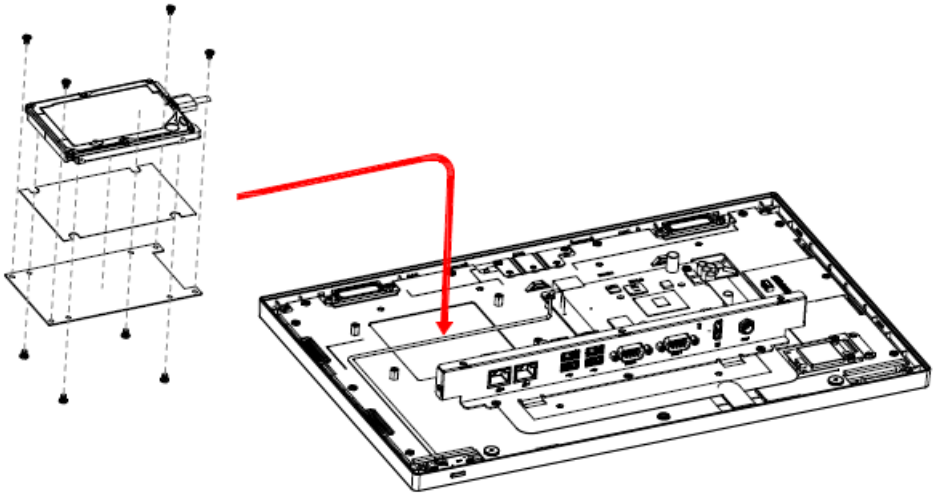
Step 2-2 Unfasten 6 screws (“b”) from the panel and take off the cover.



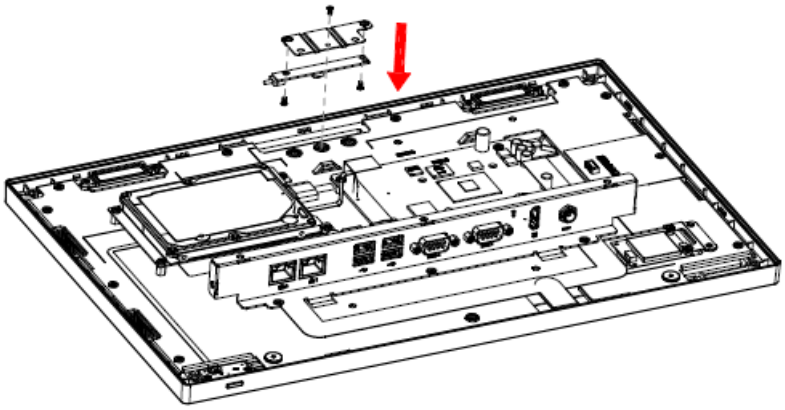
Step 3. Unfasten 9 screws from the panel and take off the cover.



Step 4. Insert NFC card into designated location.



Step 5. Insert 2.5” HDD into designated location.



Step 6. Insert Camera card into designated location.