

LPC-1231/1531

12.1"/15" Intel® Celeron® SoC N3000 family Processor
Fanless Rugged Touch Panel PC

Quick Reference Guide

1st Ed – 21 September 2015

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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.

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

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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 LPC-1231/1531 Panel PC
- 1 x DVD-ROM contains the followings:
 - User's Manual (this manual in PDF file)
 - Ethernet driver and utilities
 - VGA drivers and utilities
 - Audio drivers and utilities
 - WiFi drivers and utilities
 - Touch controller drivers and utilities
 - Chipset drivers and utilities
- 1 x Power Adapter
- 1 x Stand for Panel PC (optional)



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

1.3 System Specifications

Panel 		
Model	LPC-1231	LPC-1531
LCD size	12.1", 4:3	15", 4:3
Display type	XGA	
Resolution	1024 x 768	
Pixel pitch	0.240mm(H) x 0.240mm(V)	0.297mm(H) x 0.297mm(V)
Luminance	600 cd/m ²	400 cd/m ²
Contrast ratio	700	
Viewing angle	70(U), 70(D), 80(L), 80(R)	
Response time	16 ms	
Backlight	LED	
Touch type	5 Wires resistive	
Touch Light transmission	80%	
Touch Controller	Onboard USB touch (EETI)	
System 		
Board	EBM-BSW	
Processor	Intel® Pentium®/Celeron® processor	
I/O Chipset	Nuvoton NPCE388N	
System Memory	1 x 204-pin DDR3L 1600MHz up to 8GB	
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./1sec.step	
H/W Status Monitor	Monitoring SYSTEM Temperature and Voltage with Auto Throttling Control	
Expansion 		
Expansion	1 x Mini PCIe Support mSATA	
	1 x Mini PCIe Supports SIM Card	
Storage 		
Storage	1 x 2.5" Drive Bay	
	Optional onboard eMMC	
I/O 		
USB	4 x USB 3.0	
SATA	1 x SATA III	
COM Port	2 x RS-232/422/485 (Factory Optional)	
Other	1 x HDMI	
	1 x Knockouts for Antenna Mounting	
Display 		
Chipset	Intel® Braswell SoC integrated Graphics	
	Supports dual display	

Resolution	HDMI: Max. resolution 1920 x 1200@ 60Hz	
Audio ▾		
Chipset	Realtek ALC233 supports 2.1-CH Audio	
Audio Interface	Line out	
Speaker Output	N/A	2 x 1W
Ethernet ▾		
Chipset	2 x Realtek RTL8119	
Ethernet Interface	10/100/1000 Base-Tx Gbe compatible	
LAN Port	2 x RJ-45	
Power Requirement ▾		
Power Connector	Lockable DC Jack	
Power Requirement	+12V ~ +26V	
ACPI	Single Power ATX Support S0, S3, S4, S5	
	ACPI 3.0 Compliant	
Power Type	AT/ATX (ATX is default setting)	
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz	
	Output: 60W Adapter (12V @ 5A Adapter)	
Mechanical & Environment ▾		
System Fan	Fanless	
Construction-Front	Silver Aluminum	
Construction-Rear	Black	
Dimensions	283 x 222 x 45 mm	
Weight	2.84 Kgs	
Operating	-10°C ~ 50°C	
Storage Temp.	-20°C ~ 60°C	
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing	
Vibration Test	With SSD/mSATA : 1.5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/axis	
Mounting	Wall / Stand / VESA 75mm x 75mm	
Shock Test	With CF/SSD : 10Grms, IEC 60068-2-27, Half Sine, 11ms	
Certifications ▾		
Certification Information	CE	
	FCC Class B	
Software Support ▾		
OS Information	Win 7, 8.1, 10	
	Linux	

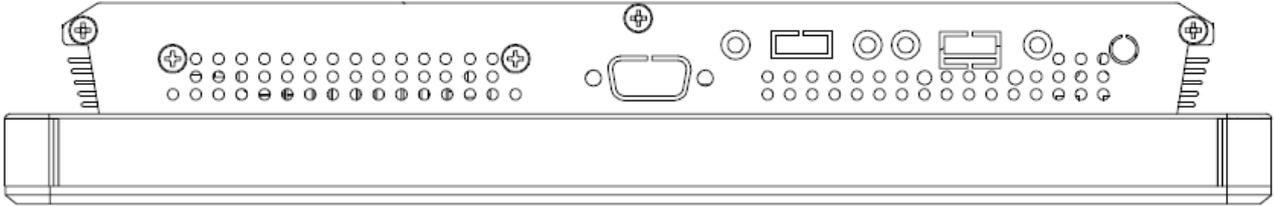


Note: Specifications are subject to change without notice.

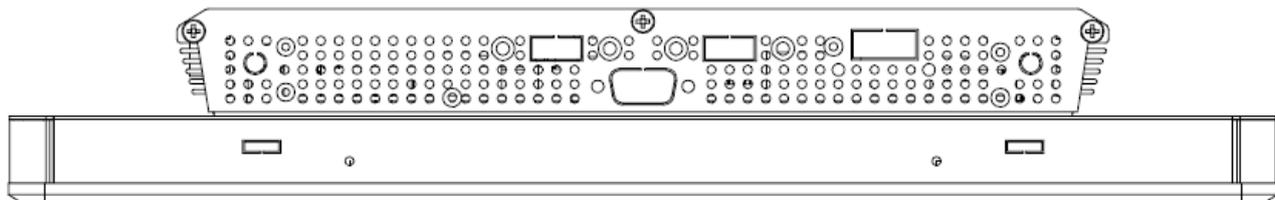
1.4 System Overview

1.4.1 Top View

LPC-1231

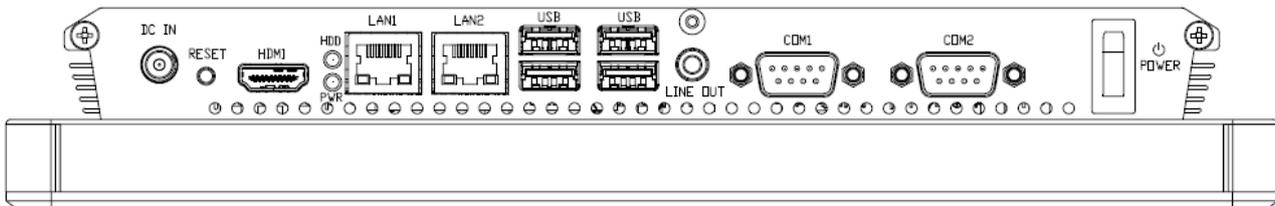


LPC-1531

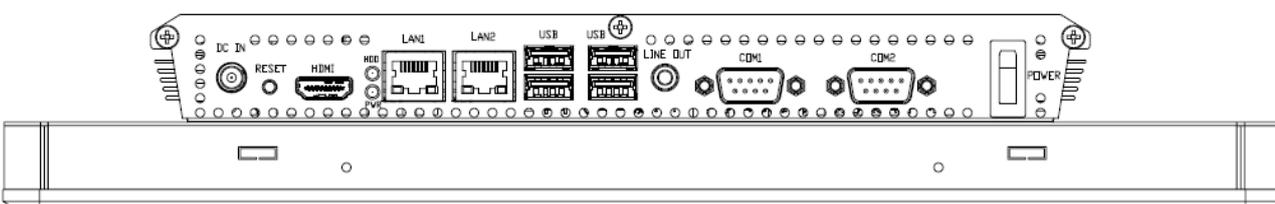


1.4.2 Bottom View

LPC-1231



LPC-1531



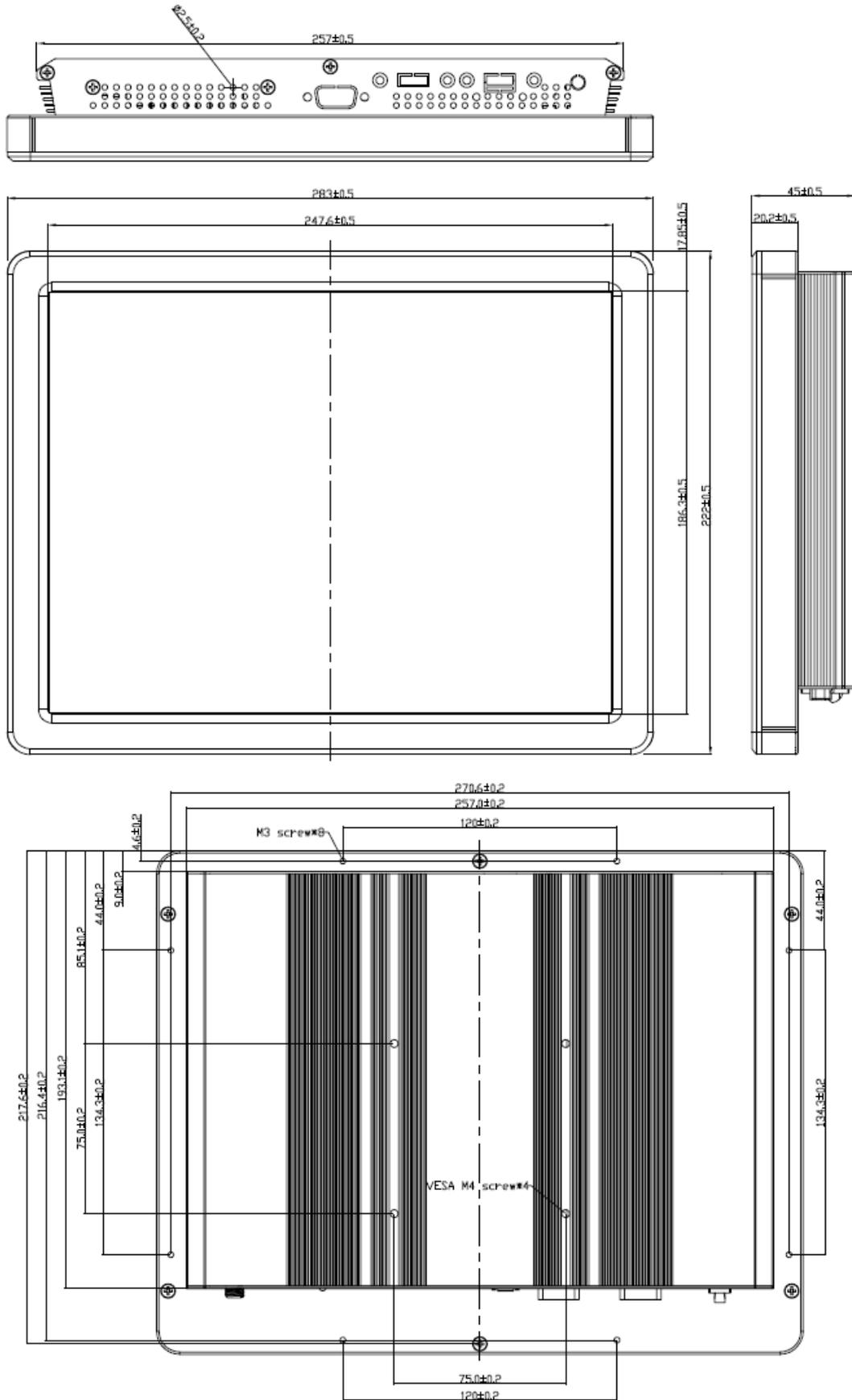
Connectors

Label	Function	Note
POWER	Power on button	
COM1/2	Serial port 1/2 connector	DB-9 male connector
LINE OUT	Line-out audio jack	
USB	4 x USB 3.0 connector	Dock USB
LAN1/2	RJ-45 Ethernet connector 1/2	
HDD	HDD indicator	

PWR	System power indicator
HDMI	HDMI connector
RESET	Reset button
DC IN	DC Power-in connector

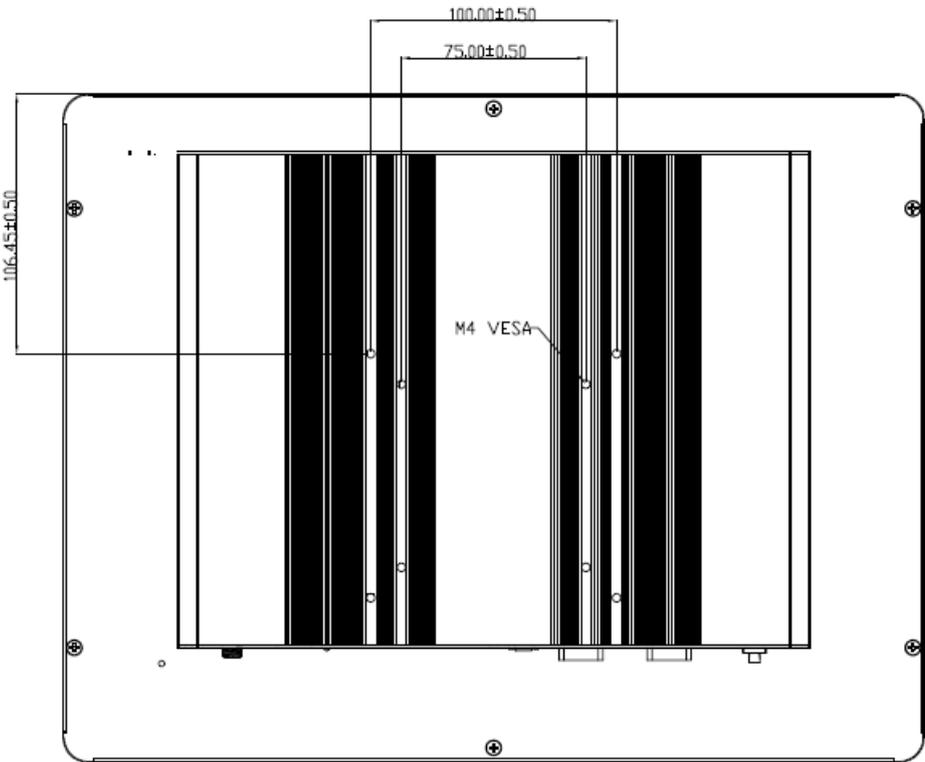
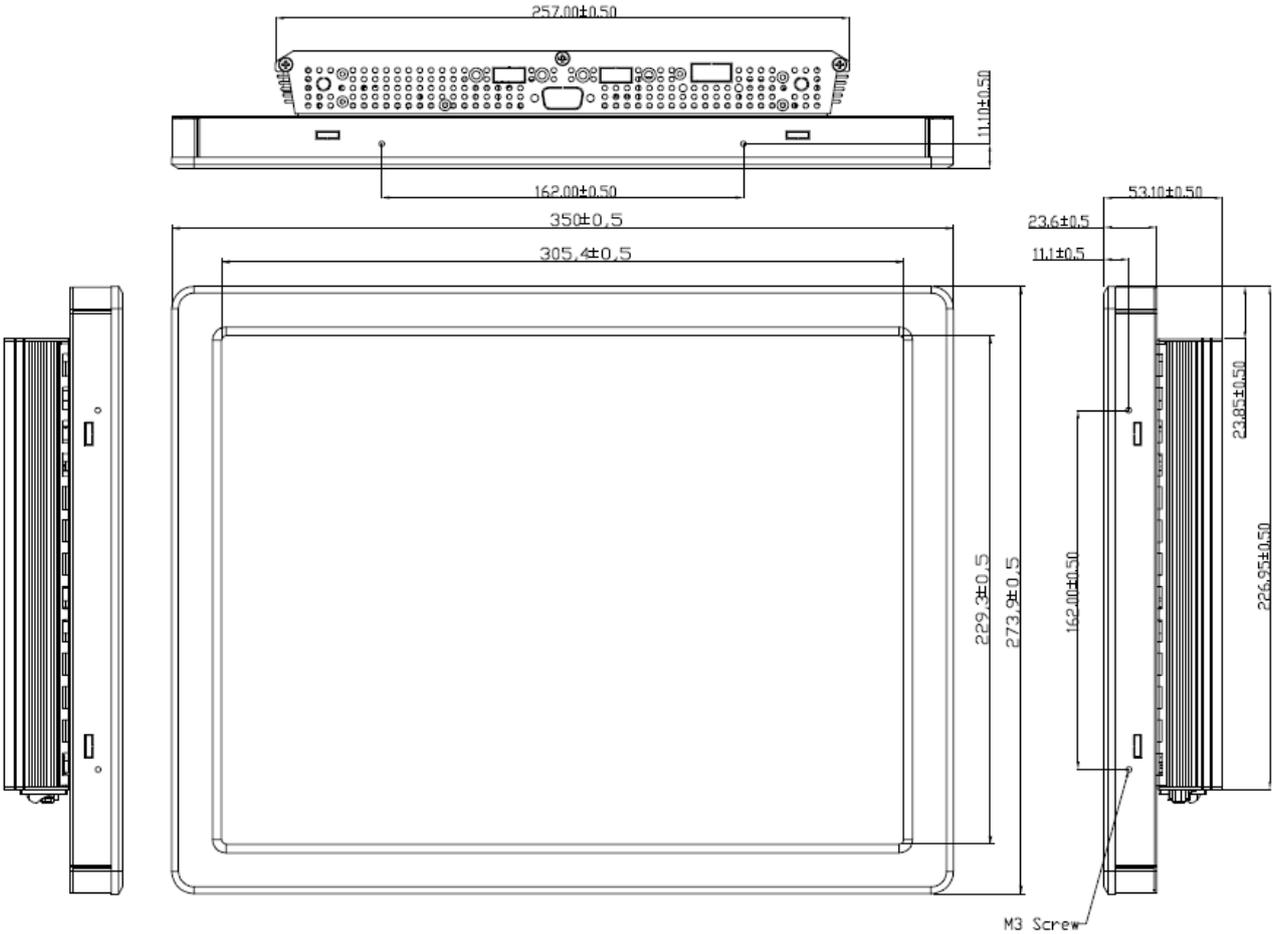
1.5 System Dimensions

1.5.1 LPC-1231 Front and Rear side



(Unit: mm)

1.5.2 LPC-1531 Front and Rear side



(Unit: mm)

2. Hardware Configuration

For advanced information, please refer to:

- 1- EBM-BSW User's Manual

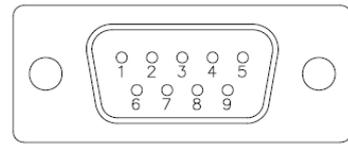
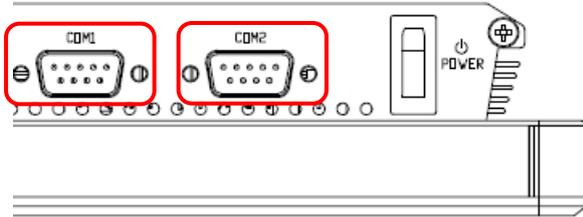


Note: If you need more information, please visit our website:

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2.1 LPC-1231/1531 connector mapping

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



RS-232

Signal	PIN	PIN	Signal
DCD#	1	6	DSR#
RXD	2	7	RTS#
TXD	3	8	CTS#
DTR#	4	9	RI#
GND	5		

RS-422

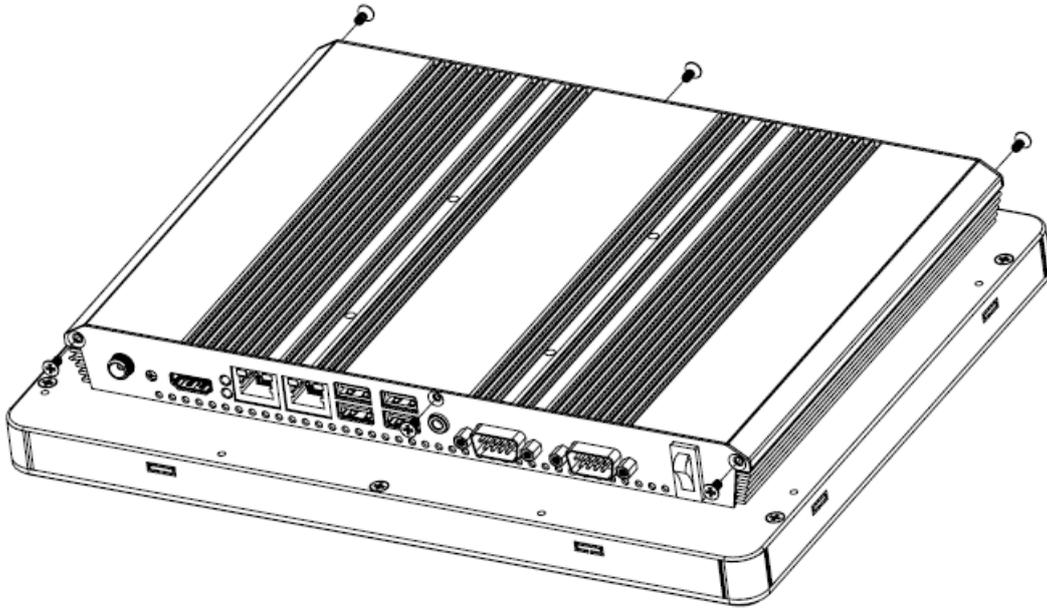
Signal	PIN	PIN	Signal
422_Tx-	1	6	NC
422_Rx+	2	7	NC
422_Tx+	3	8	NC
422_Rx-	4	9	NC
GND	5		

RS-485

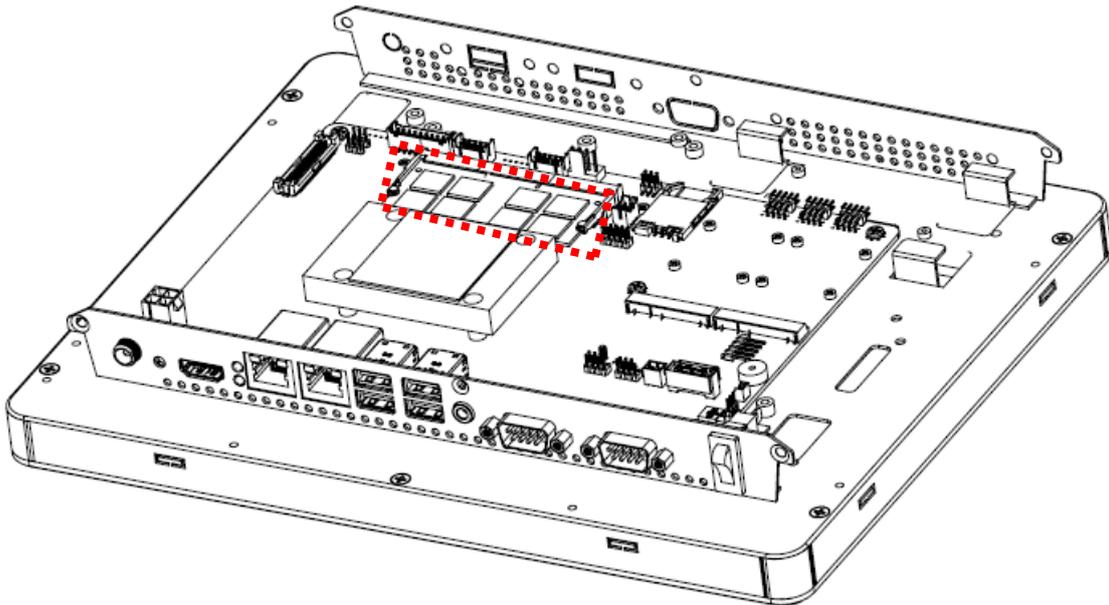
Signal	PIN	PIN	Signal
485_Tx-	1	6	NC
NC	2	7	NC
485_Tx+	3	8	NC
NC	4	9	NC
GND	5		

2.2 Installing Hard Disk & Memory (For LPC-1231)

Step 1. Unfasten 6 screws from the case. Then take off the top chassis.

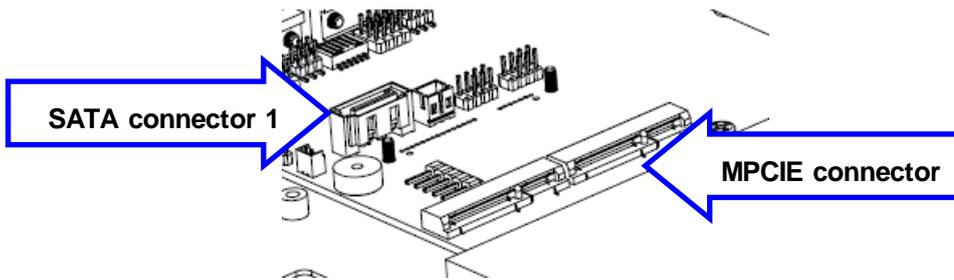


Step 2. Memory Installation: Insert the SODIMM into the memory socket.

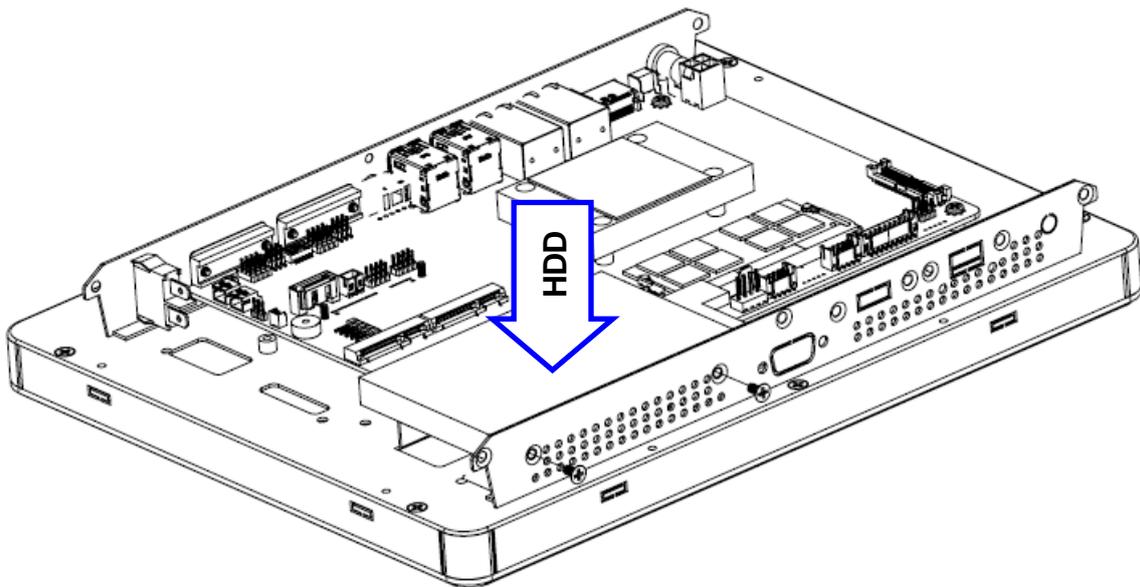


Step 3-1. SATA HDD Installation: By default, the SATA cables had been inserted to the

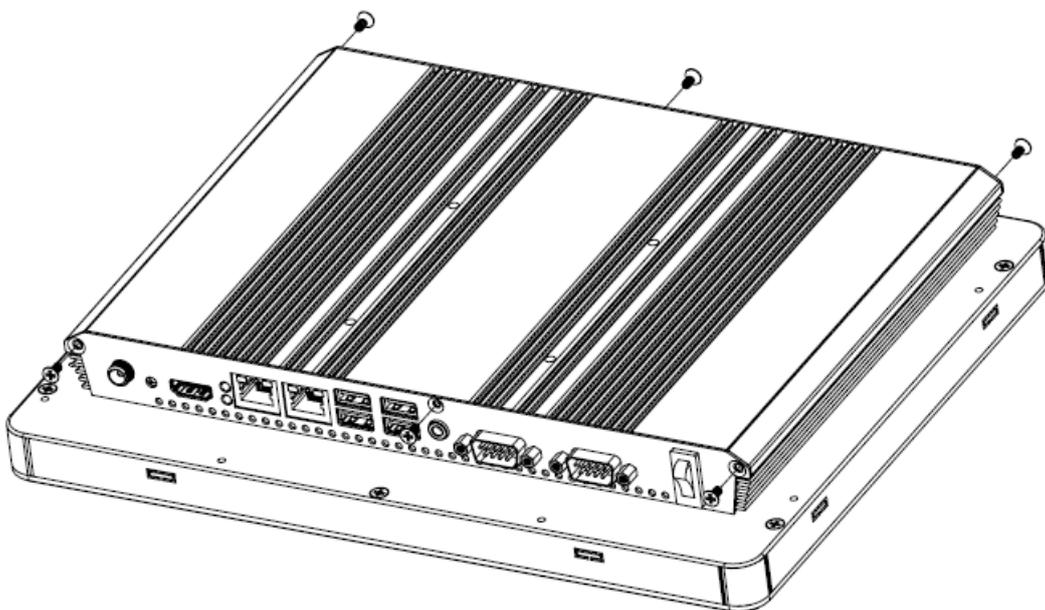
according connectors. Just connect to SATA HDD with the two cables.



Step 3-2. Insert the HDD into the Drive Bay. Remember to place the HDD down to the bottom exactly in order to screw the device tightly.

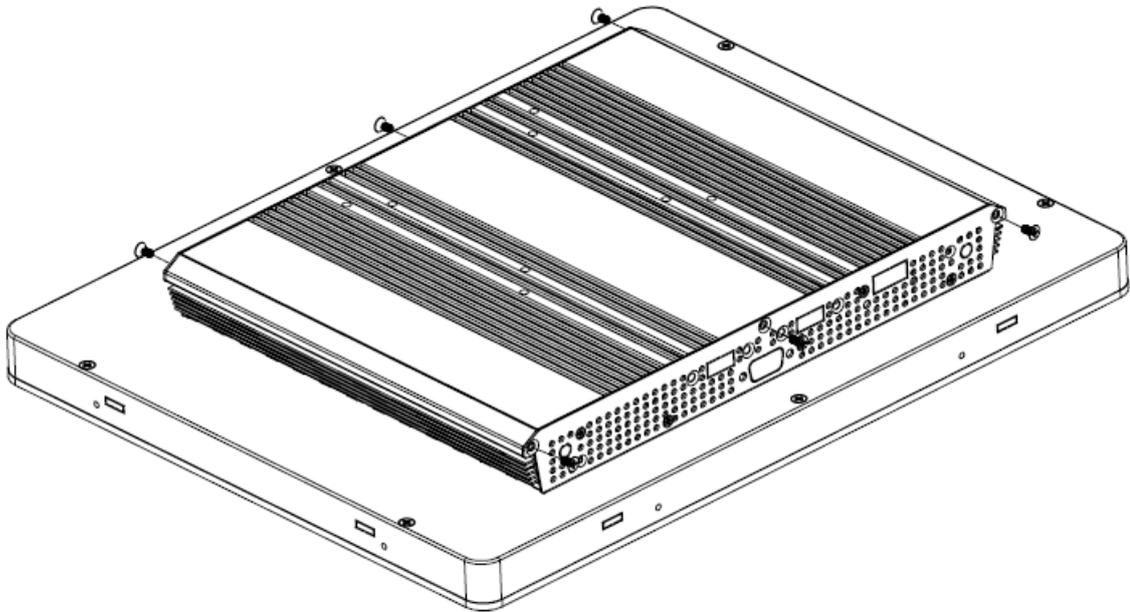


Step 4. Place back the chassis with 6 screws locked.

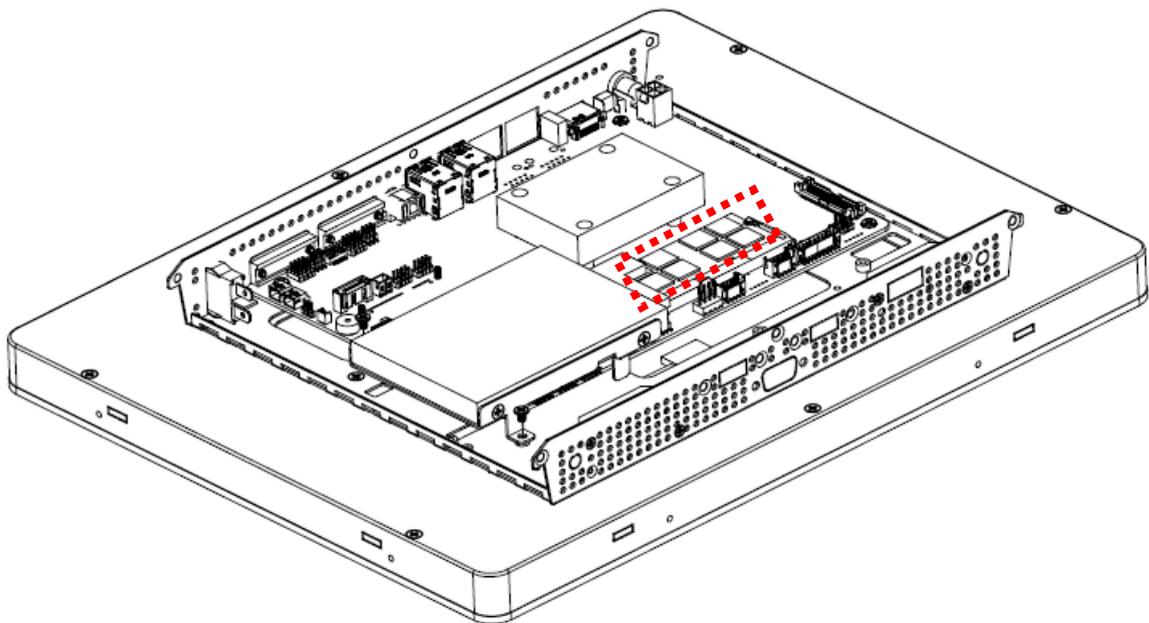


2.3 Installing Hard Disk & Memory (For LPC-1531)

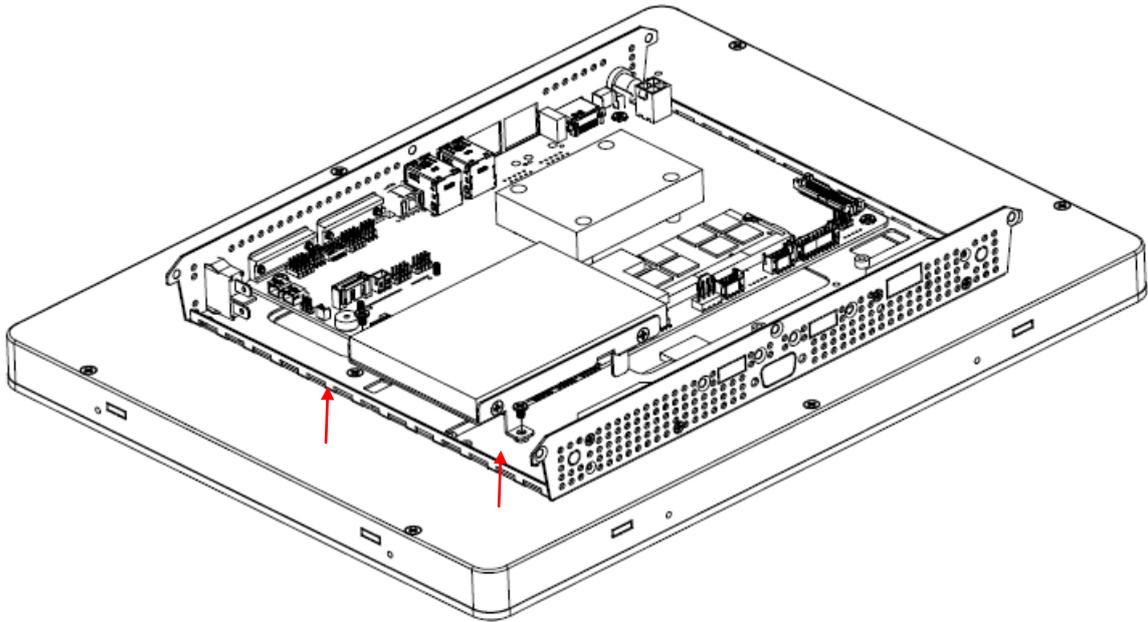
Step 1. Unfasten 6 screws from the case. Then take off the top chassis.



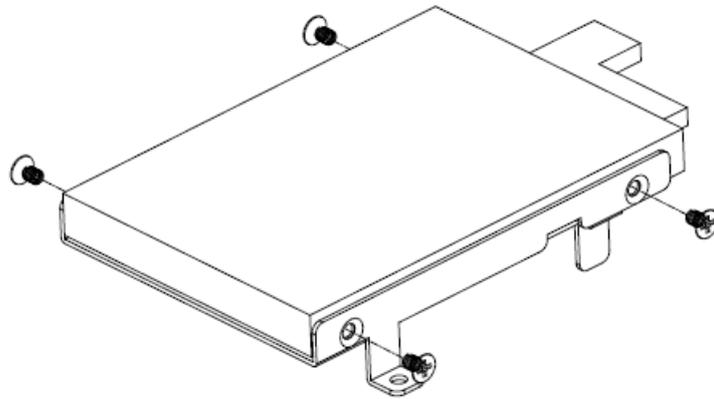
Step 2. Memory Installation: Insert the SODIMM into the memory socket.



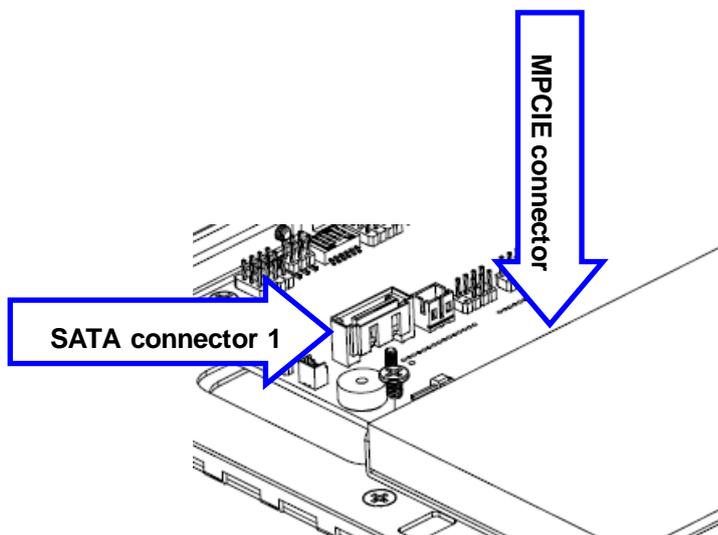
Step 3-1. HDD Installation: Unfasten 2 screws of the HDD bracket and take it off.



Step 3-2. Insert the HDD into the bracket and fasten 4 screws.

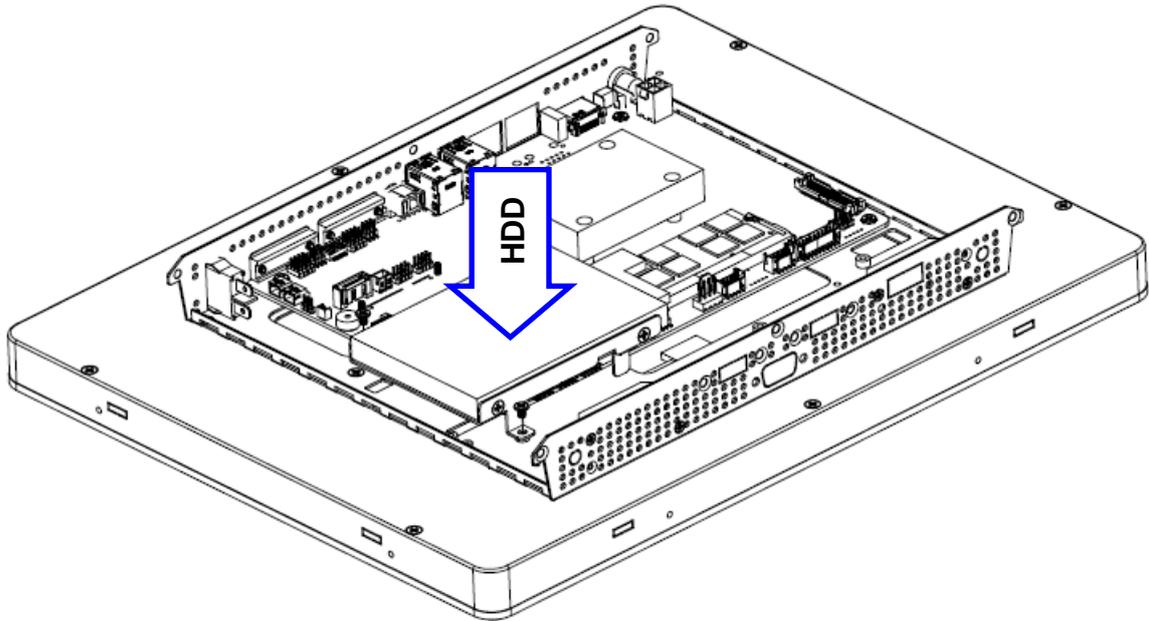


Step 3-3. SATA HDD Installation: By default, the SATA cables had been inserted to the according connectors. Just connect to SATA HDD with the two cables.



LPC-1231/1531

Step 3-4. Insert the HDD into the Drive Bay. Remember to place the HDD down to the bottom exactly in order to screw the device tightly.



Step 4. Place back the chassis with 6 screws locked.

