

innodisk

ASCI-020

User Manual



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Preface

Thank you for your purchase of Innodisk's ASCI-020 single board computer. This accompanying manual provides a detailed guide for engineers and technicians, and aims to assist in the setup and deployment of the board into industrial settings and solutions.

Introduction

This innovative new 3.5" embedded single board computer with an Intel Atom® Elkhart Lake Series processor supports up to 32GB of DDR4 memory, 4Kp60 on three simultaneous displays, has two 2.5G Gigabit Ethernet time sensitive networking ports, and much more. Designed specifically for AIoT solutions, this entry level board from Innodisk with a rugged fanless design is perfect for industrial automation, transportation, aerospace & security, as well as medical applications among others.

Notices

Innodisk reserves the right to change the contents of this document without notice. Information contained inside is for reference only and does not represent any kind of commitment or guarantee from the manufacturer. In addition, Innodisk is not responsible for any damages caused from the use, or misuse of the information inside.

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Safety Warnings

- Always unplug mains power before installation of components
- Ensure the correct AC input voltage is used to power the device

Warranty

Innodisk Corporation guarantees that all Innodisk manufactured products undergo strenuous quality control testing before delivery. In the event that any product defect (nonconformity) occurred with respect to the product, Innodisk will provide product repair and replacement service within the warranty period of this product (2 years).

CE & FCC Conformity

This product conforms to FCC (class B for digital devices), and CE requirements.

Box Contents

Item	Quantity
ASCI-020 SBC	1
Heatsink	1
SATA cable	1
SATA power cable	1
COM Port DB9 cable	1

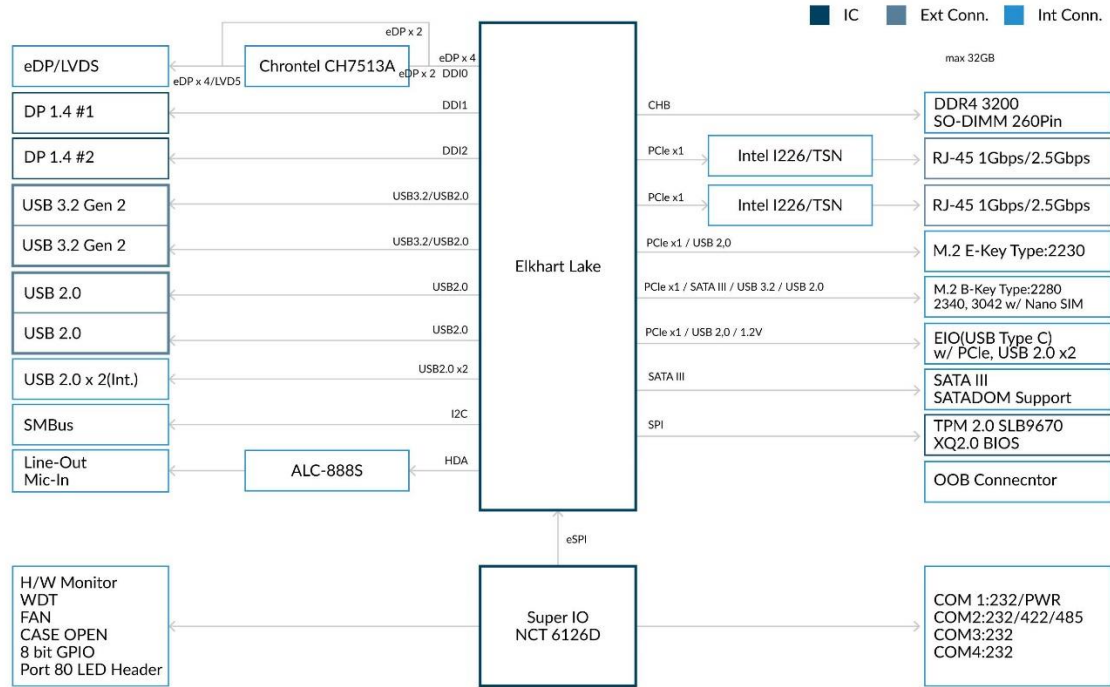
Optional Accessories

Item	Part Number
Adapter, 60W + 12V + DC Jack	7W000000060
Audio cable (10cm)	7W5000000080
4-pin power to DC jack cable (8cm)	7W3000001210
Power cord with UK plug	7W8000000070
Power cord with EU plug	7W8000000080
Power cord with US plug	7W8000000090

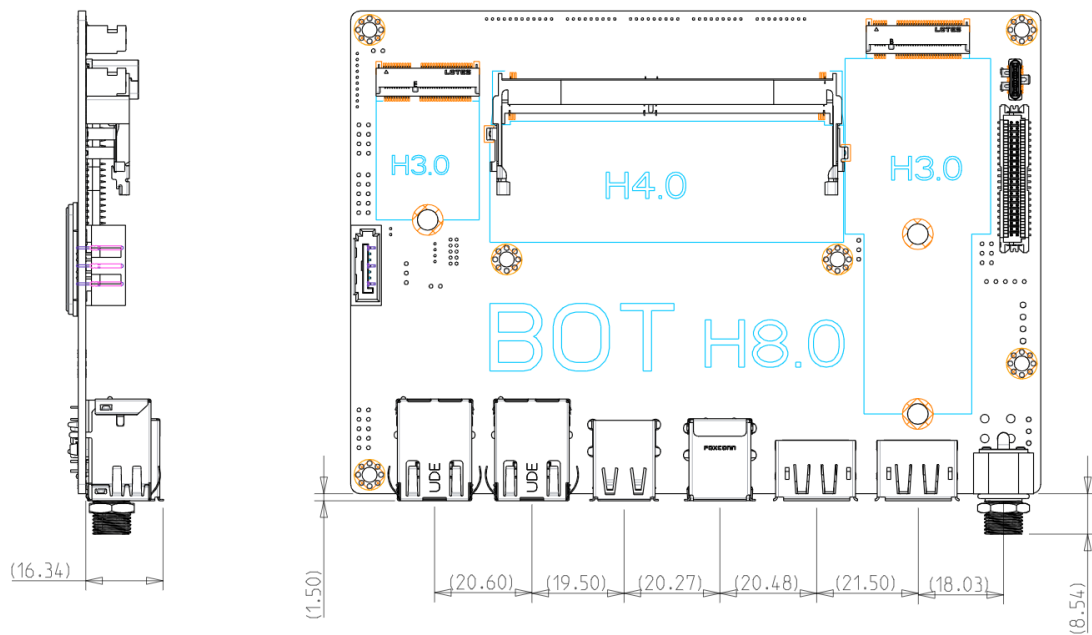
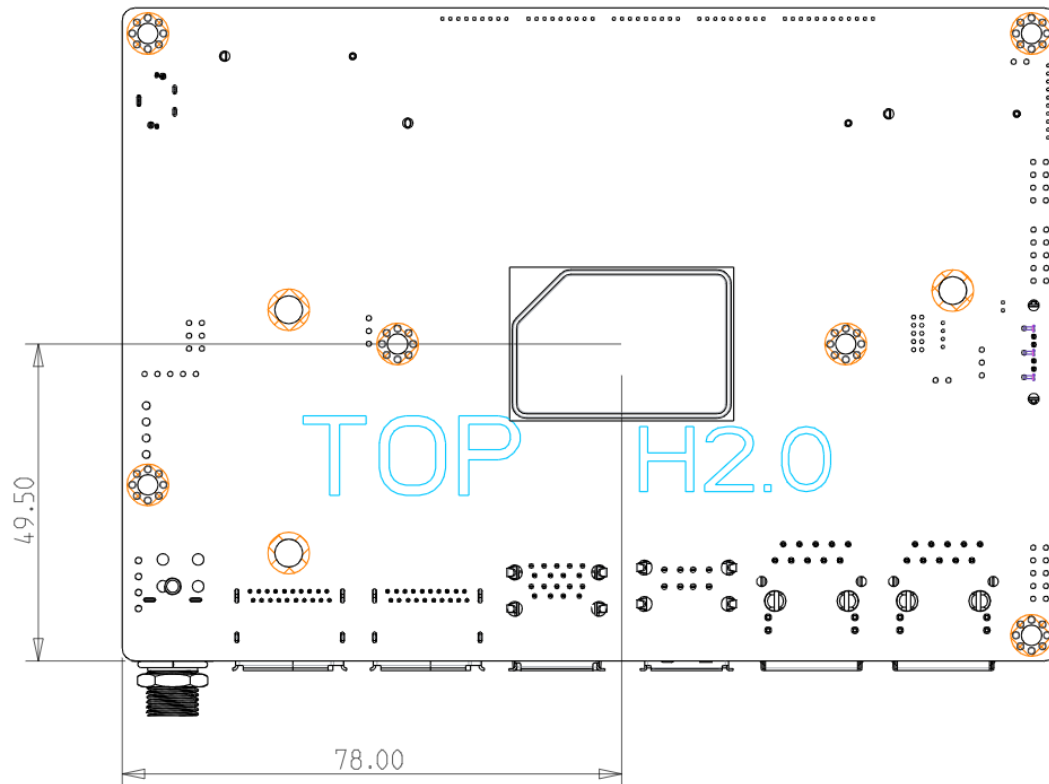
Specifications

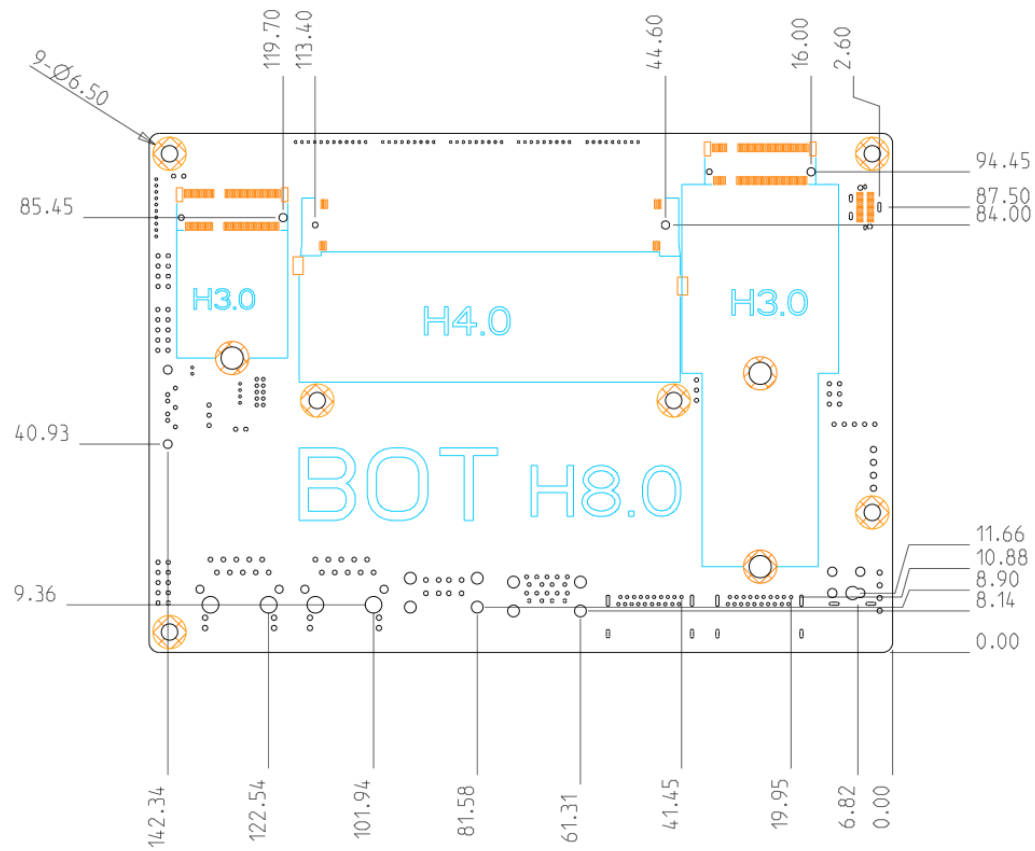
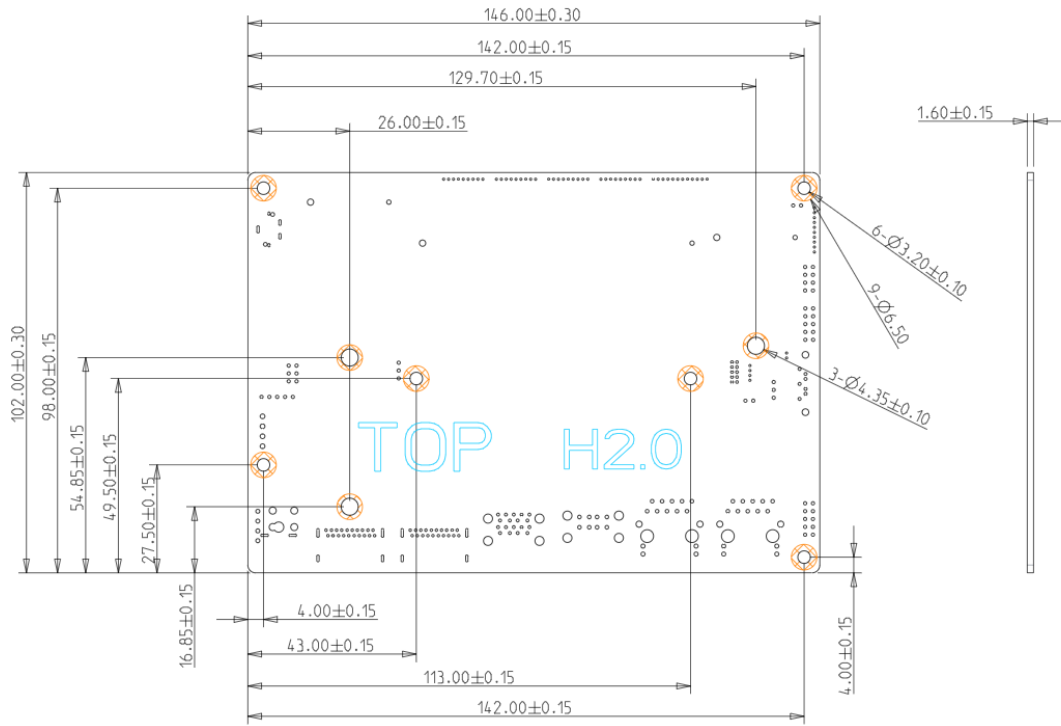
System	Processor	Intel Atom® X6000, N6000, J6000 Series Processors, BGA 1493 (4.5~12W)	
	Memory	One 260-pin SO-DIMM up to 32GB, DDR4 up to 3200MHz (in-band ECC support in embedded/industrial SKU)	
	BIOS	AMI SPI 256Mbit	
Expansion Slot	Interface	1 * M.2 2242/3042/2280 B Key (PCIe x1/SATA3.0/USB2.0)	
		1 * Nano SIM socket (connected to M.2 B key)	
		1 * M.2 2230 E Key (PCIe x1/USB2.0)	
Graphics	Controller	Intel® UHD Graphics	
	Feature	OpenGL 4.5, DirectX 12, Open CL 1.2, Vulkan 1.1 HW Decode: AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H.265, VP8, VP9 HW Encode: AVC/H.264, JPEG/MJPEG, HEVC/H.265, VP9	
	LVDS/eDP	1 * eDP/LVDS LVDS: resolution up to 1920x1200 @ 60Hz eDP: resolution up to 1920x1200 @ 60Hz	
	DP++	2 * DP++, resolution up to 4096x2160 @ 60Hz	
	Triple display	DP+DP+LVDS/ DP+DP+eDP	
	Display	1 * LVDS/eDP LCD Panel Connector	
Internal I/O	Audio	1 * Line-out, 1 * Mic-in	
	USB	2 * USB 2.0 (2.00mm pitch)	
	Serial	4 * 1x9 (1.25mm pitch) COM1: RS232/PWR COM2: RS232/RS485/RS422 COM3: RS232 COM4: RS232	
	SATA	1 * SATA 3.0 (up to 6Gb/s)	
	M.2 B Key	1 for storage and LTE module	
	M.2 E Key	1 for wireless module	
	GPIO	1 * 8-bit	
	SMBus	1 * SMBus (1.25mm pitch)	
	Rear I/O	Display	2 * DP++
		Ethernet	2 * 2.5GbE (RJ-45)
		USB	2 * USB 3.2 Gen2x1 Type-A
2 * USB 2.0 Type-A			
Power Supplier	Type	Single 12V +/-10% DC	
	Connector	DC-in Jack (Default) Vertical Type 4-pin Connector	
	Consumption	Idle: X6425RE: 2.28W(12V) Max: X6425RE: 39.63W(12V)	
	RTC Battery	CR2032 Coin Cell	
Watchdog Timer	Output	System reset	
	Interval	Programmable from 1 to 255 Seconds/Minutes	
Security	TPM	dTPM2.0 (default)/fTPM (option)	
Environment	Temperature	Operating: -Standard SKU (N6000, J6000): 0 to 60°C -Wide Temp. SKU (X6000): 40 to 85°C Storage: -40 to 85°C	
	Humidity	Operating: 5 to 90% RH Storage: 5 to 90% RH	
OS Support	OS	Microsoft Windows/ Linux	
Physical Characteristics	Dimension	3.5" SBC Form Factor, 146 x 102 mm	
	Height	Top Side: 16.34 mm	

Board Block Diagram

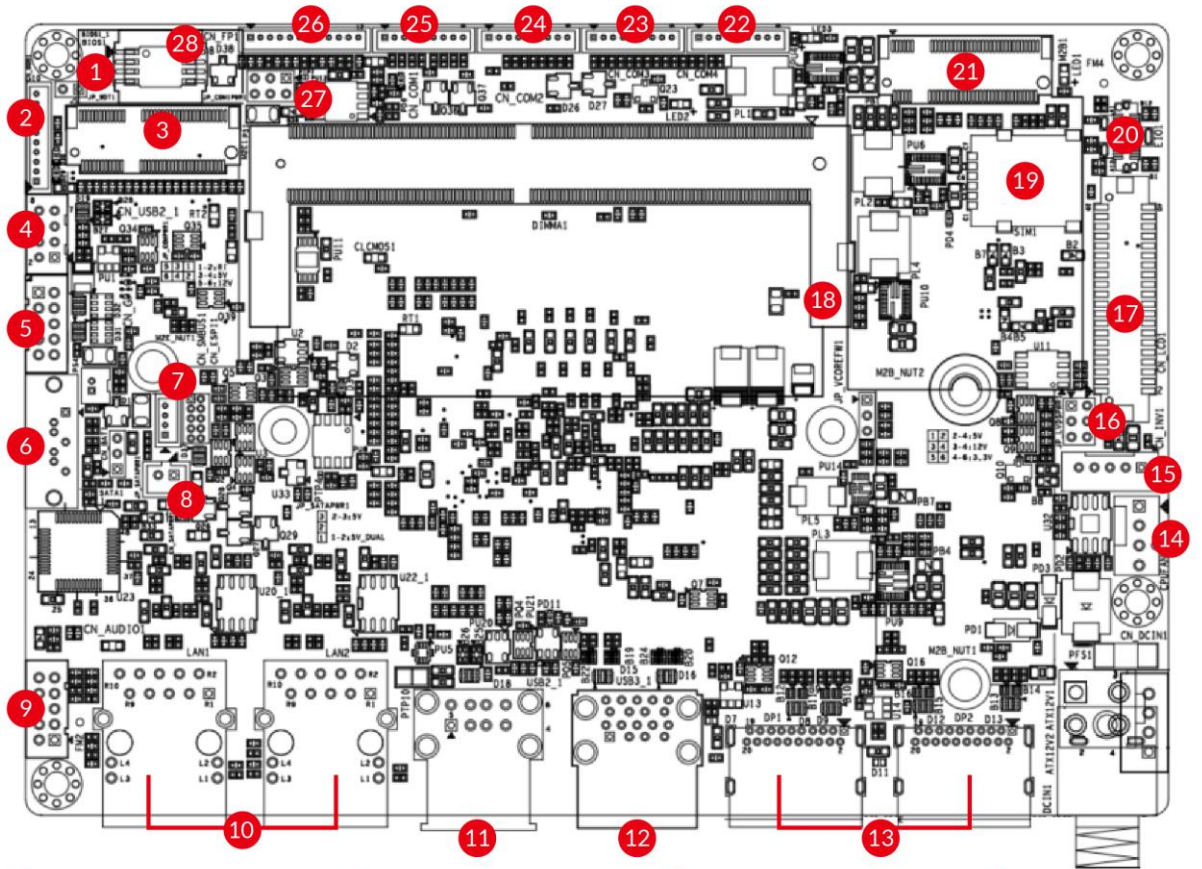


Board Dimensions (mm)





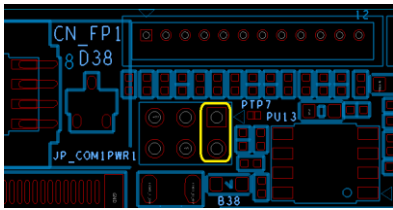
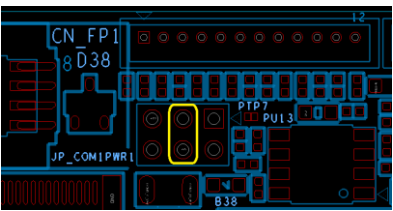
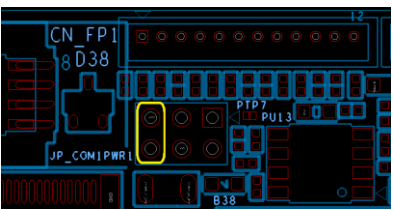
Board Layout

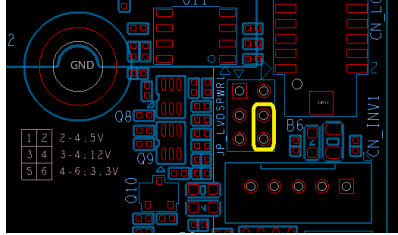
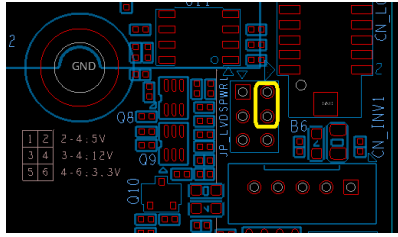
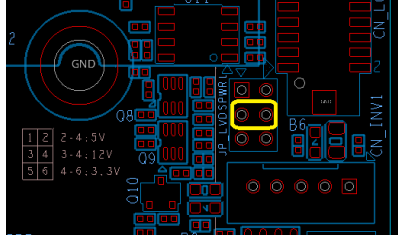
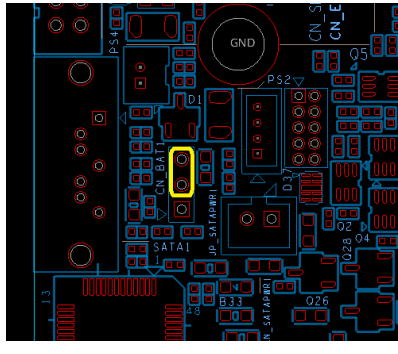
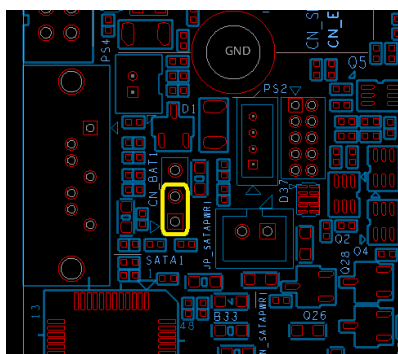
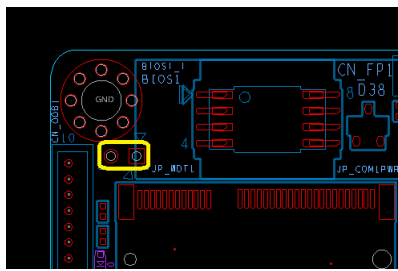


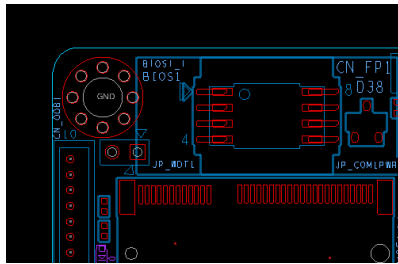
- | | | | |
|---------------------|---------------------|--------------------|-----------------|
| 1 Watch Dog Reset | 8 Wafer(SATA Power) | 15 LCD Panel Power | 22 COM4 |
| 2 OOB for InnoAgent | 9 Audio | 16 JP-LVDS_PWR1 | 23 COM3 |
| 3 M.2 E-Key | 10 2.5 Gbe LAN | 17 LVDS/eDP | 24 COM2 |
| 4 USB 2.0 | 11 USB 2.0 | 18 DDR4 | 25 COM1 |
| 5 GPIO | 12 USB 3.2 | 19 Nano SIM | 26 Front Panel |
| 6 SATA | 13 Display Port++ | 20 EIO | 27 JP_COM1_PWR1 |
| 7 SMBUS | 14 CPU Fan | 21 M.2 B-Key | 28 BIOS |

Jumpers

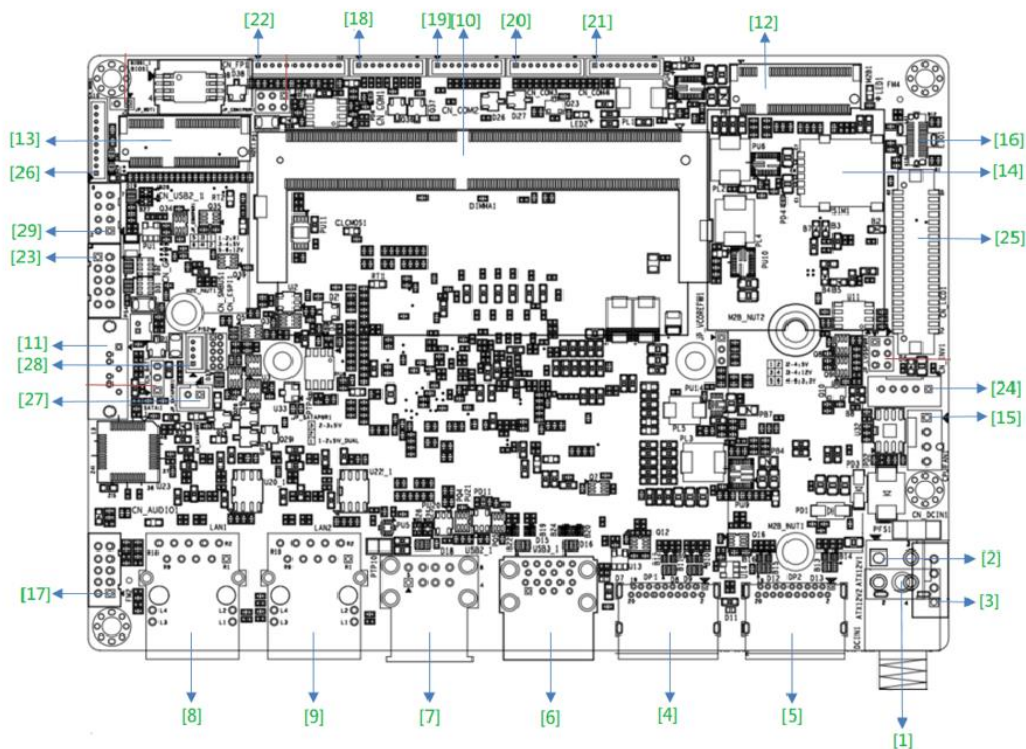


Location	Name	Function	Setting
1	JP_COM1PWR1	RI# for COM1_RI# (1-2) (Default)	
		+5V for COM1_RI# (3-4)	
		+12V for COM1_RI# (5-6)	

2	JP_LVDSPWR1	+3.3V LCD Panel Voltage (4-6) (Default)	
		+5V LCD Panel Voltage (2-4)	
		+12V LCD Panel Voltage (3-4)	
3	JP_SATAPWR1	5V SATA Power (2-3) (Default)	
		+5VSB SATA Power (1-2)	
4	JP_WDT1	Watchdog Timer With System Reset (1-2) (Default)	

		Watchdog Timer Without System Reset	
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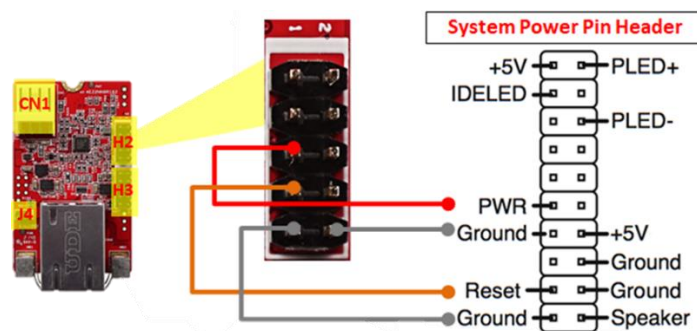
Connectors



Location	Name	Function
1	DCIN1	+12V DC input
2	ATX12V1	(Option) +12V DC input
3	CN_DCIN1	(Option) +12V DC input
4	DP1	Display Port 1
5	DP2	Display Port 2
6	USB3_1	USB3.2 Gen2
7	USB2_1	USB2.0 Hi-Speed
8	LAN1	2.5G/1G/100M/10M RJ45 LAN1
9	LAN2	2.5G/1G/100M/10M RJ45 LAN2
10	DIMMA1	260Pin DDR4 SO-DIMM

11	SATA1	7Pin SATA
12	M2B1	M.2 B Key
13	M2E1	M.2 E Key
14	SIM1	Nano SIM slot
15	CPUFAN1	4pin Fan
16	EIO1	Extension I/O for 2F board.
17	CN_AUDIO1	Audio for Mic-in/Line-out
18	CN_COM1	RS232 (Pin9: RI#/12V/5V)
19	CN_COM2	RS-232 / RS-422 / RS-485 (BIOS selection)
20	CN_COM3	RS232
21	CN_COM4	RS232
22	CN_FP1	Front panel
23	CN_GPIO1	GPIO (DIO)
24	CN_INV1	LCD Inverter (Backlight)
25	CN_LCD1	LVDS/eDP LCD panel
26	CN_OOB1*	InnoAgent (OOB)
27	CN_SATAPWR1	+5V SATA Power
28	CN_SMBUS1	+3.3V SMBus
29	CN_USB2_1	USB2.0

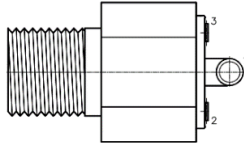
*OOB (Out-of-band) remote management technology allows system operators to manage and maintain devices even when a device's hardware, or software is malfunctioning. The CN-OOB1 connector is for use with the InnoAgent OOB remote management module, sold separately. InnoAgent's pin define for connecting with the ASCI-020 board's power and reset pins are as follows:



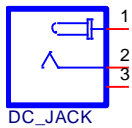
See the connector and jumper settings manual for detailed pin define details.

Detailed Connector Descriptions

DC input Connector (DCIN1)

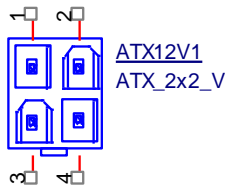
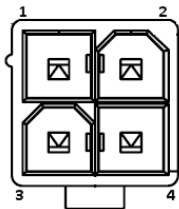


DCIN1



Pin	Signal Pin Definition
1	Power input (Only +12V)
2	GND
3	GND

DC input Connector (ATX12V1) *Optional

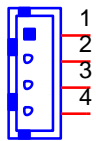


Pin	Signal Pin Definition	Pin	Signal Pin Definition
1	GND	2	GND
3	Power input (Only +12V)	4	Power input (Only +12V)

DC input Connector (CN_DCIN1) *Optional



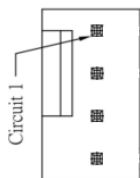
CN_DCIN1



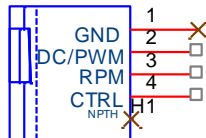
WF_1x4V_2.5D

Pin	Signal Pin Definition
1	GND
2	GND
3	Power input (Only +12V)
4	Power input (Only +12V)

Fan Connector (CPUFAN1)



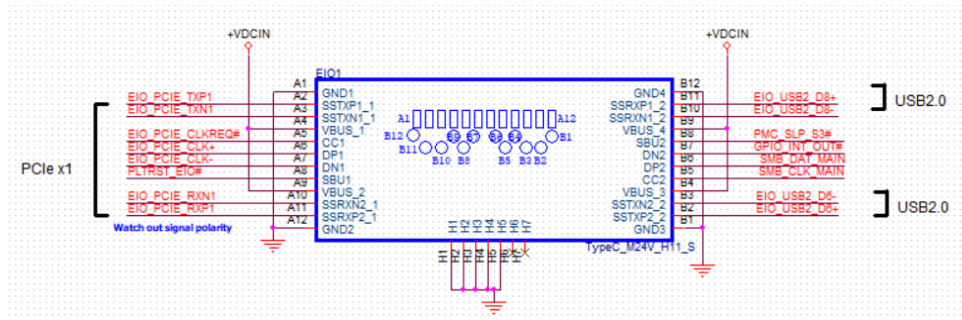
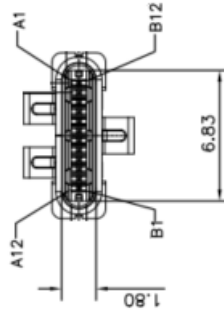
CPUFAN1



FAN_1x4V

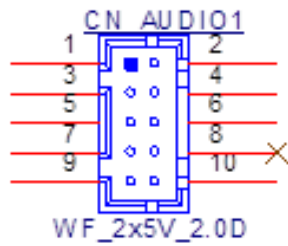
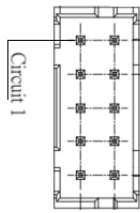
Pin	Signal Pin Definition
1	GND
2	CPU FAN +12V
3	CPU FAN SPEED PWM
4	CPU FAN Control

Extension I/O Connector (EIO1)



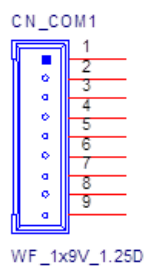
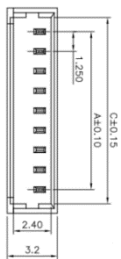
Pin	Signal Pin Definition	Pin	Signal Pin Definition
A1	GND	B12	GND
A2	EIO_PCIE_TXP1	B11	EIO_USB2_D2+
A3	EIO_PCIE_TXN1	B10	EIO_USB2_D2-
A4	+12VSB	B9	+12VSB
A5	EIO_PCIE_CLKREQ#	B8	PMC_SLP_S3#
A6	EIO_PCIE_CLK+	B7	GPIO_INT_OUT#
A7	EIO_PCIE_CLK-	B6	SMB_DAT_MAIN
A8	PLTRST_EIO#	B5	SMB_CLK_MAIN
A9	+12VSB	B4	+12VSB
A10	EIO_PCIE_RXN1	B3	EIO_USB2_D1-
A11	EIO_PCIE_RXP1	B2	EIO_USB2_D1+
A12	GND	B1	GND

Audio Mic-in/Line-out connector (CN_AUDIO1)



Pin	Signal Pin Definition	Pin	Signal Pin Definition
1	MIC1-L	2	GND
3	MIC1-R	4	Presence#
5	LINEOUT-R	6	MIC1_JD
7	FIO_SENSE	8	NC
9	LINEOUT-L	10	LINEOUT_JD

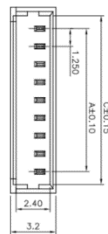
RS-232 connector (CN_COM1)



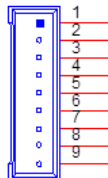
Pin	Signal Pin Definition
1	COM1_DCD#
2	COM1_RX
3	COM1_TX
4	COM1_DTR#
5	GND
6	COM1_DSR#
7	COM1_RTS#
8	COM1_CTS#
9	*COM1_RI# / +5V / +12V

* Refer to Jumper setting: JP_COM1PWR1

RS-232/RS-422/RS-485 Connector (CN_COM2)



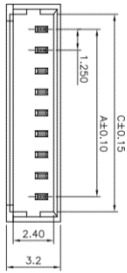
CN_COM2



WF_1x9V_1.25D

Pin	RS-232 Pin Definition	RS-422 Pin Definition	RS-485 Pin Definition
1	COM2_DCD#	TX-	DATA-
2	COM2_RX	TX+	DATA+
3	COM2_TX	RX+	
4	COM2_DTR#	RX-	
5	GND		
6	COM2_DSR#		
7	COM2_RTS#		
8	COM2_CTS#		
9	COM2_RI#		

RS-232 connector (CN_COM3)



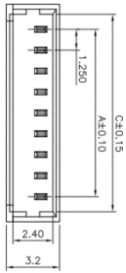
CN_COM3



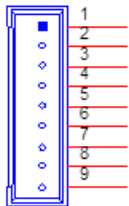
WF_1x9V_1.25D

Pin	Signal Pin Definition
1	COM3_DCD#
2	COM3_RX
3	COM3_TX
4	COM3_DTR#
5	GND
6	COM3_DSR#
7	COM3_RTS#
8	COM3_CTS#
9	COM3_RI#

RS-232 connector (CN_COM4)



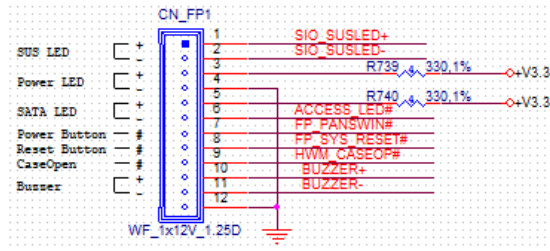
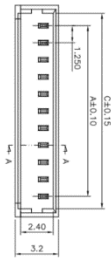
CN_COM4



WF_1x9V_1.25D

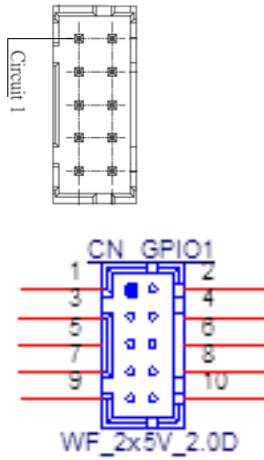
Pin	Signal Pin Definition
1	COM4_DCD#
2	COM4_RX
3	COM4_TX
4	COM4_DTR#
5	GND
6	COM4_DSR#
7	COM4_RTS#
8	COM4_CTS#
9	COM4_RI#

Front Panel Connector (CN_FP1)



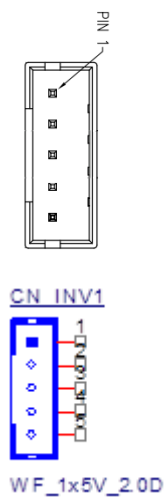
Pin	Signal Pin Definition
1	SIO_SUSLED+
2	SIO_SUSLED#
3	Power LED+
4	Power LED#
5	ACCESS_LED+
6	ACCESS_LED#
7	Power Button#
8	Reset Button#
9	CASEOPEN#
10	BUZZER+
11	BUZZER#
12	GND

GPIO (DIO) Connector (CN_GPIO1)



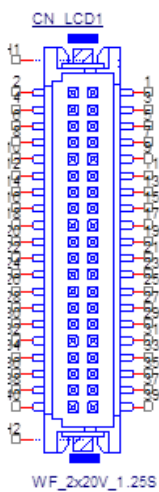
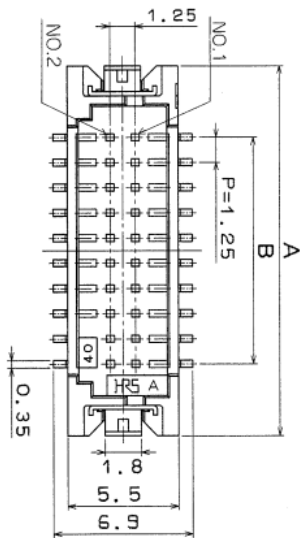
Pin	Signal Pin Definition	Pin	Signal Pin Definition
1	GPIO0	2	GPIO4
3	GPIO1	4	GPIO5
5	GPIO2	6	GPIO6
7	GPIO3	8	GPIO7
9	+3.3V	10	GND

LCD Backlight Inverter Connector (CN_INV1)



Pin	Signal Pin Definition
1	+12V LCD
2	GND
3	Enable Backlight
4	LCD PWM
5	+5V LCD

LVDS/eDP LCD Panel Connector (CN_LCD1)



LVDS LCD Panel

Pin	Signal Pin Definition	Pin	Signal Pin Definition
2	VDD	1	VDD
4	GND	3	LCD_DET#
6	VDD	5	VDD
8	A4N	7	A0N
10	A4P	9	A0P
12	GND	11	GND
14	A5N	13	A1N
16	A5P	15	A1P
18	GND	17	GND
20	A6N	19	A2N
22	A6P	21	A2P
24	GND	23	GND
26	CLK2N	25	CLK1N
28	CLK2P	27	CLK1P
30	GND	29	GND
32	NC	31	NC
34	GND	33	GND
36	A7N	35	A3N
38	A7P	37	A3P
40	VCON	39	ENBKL

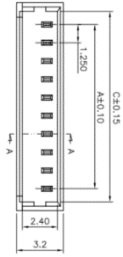
* LVDS_DET# (CN_LCD1 pin3): It needs to connect to LCD panel GND pin.

eDP LCD Panel

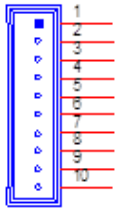
Pin	Signal Pin Definition		
2	VDD	1	VDD
4	GND	3	LCD_DET#
6	VDD	5	VDD
8	NC	7	NC
10	NC	9	eDP_HDP
12	GND	11	GND
14	NC	13	eDP_TX1N
16	NC	15	eDP_TX1P
18	GND	17	GND
20	NC	19	eDP_TX0N
22	NC	21	eDP_TX0P
24	GND	23	GND
26	NC	25	eDP_AUXN
28	NC	27	eDP_AUXP
30	GND	29	GND
32	NC	31	NC
34	GND	33	GND
36	NC	35	NC
38	NC	37	NC
40	NC	39	NC

* LVDS_DET# (CN_LCD1 pin3): It needs to connect to LCD panel GND pin.

InnoAgent Connector (CN_OOB1)



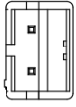
CN_OOB1



WF_1x10V_1.25D

Pin	Signal Pin Definition
1	+5VSB
2	Power Button#
3	Reset Button#
4	UART_TX
5	UART_RX
6	SMB_CLK_RESUME
7	SMB_DAT_RESUME
8	OOB_Recovery#
9	SYS_EVENT#
10	GND

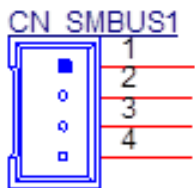
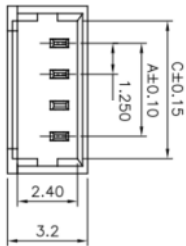
SATA +5V Power Connector (CN_SATAPWR1)



Pin	Signal Pin Definition
1	GND
2	*+5V / +5VSB

* Refer to Jumper setting: JP_SATAPWR1

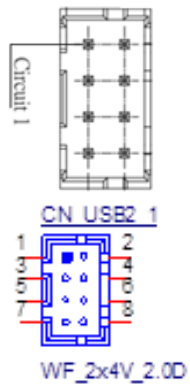
3.3V SMBUS (CN_SMBUS1)



WF_1x4V_1.25D

Pin	Signal Pin Definition
1	+3.3VSB
2	SMB_CLK_RESUME
3	SMB_DAT_RESUME
4	GND

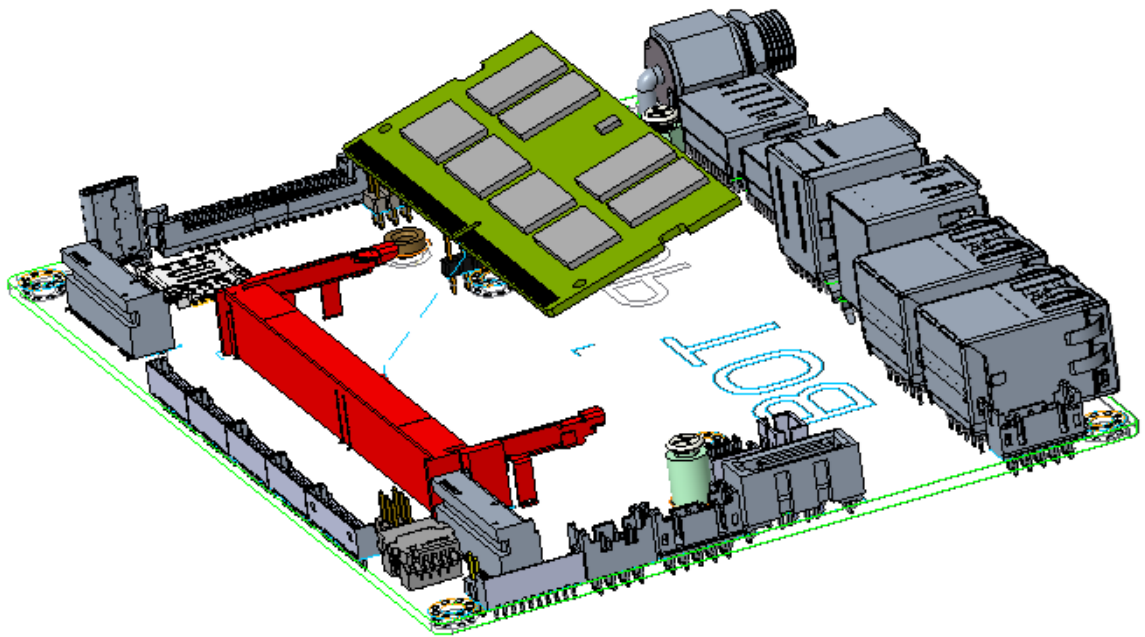
USB2.0 Connector (CN_USB2_1)



Pin	Signal Pin Definition	Pin	Signal Pin Definition
1	+5VSB	2	+5VSB
3	USB2_D9-	4	USB2_D7-
5	USB2_D9+	6	USB2_D7+
7	GND	8	GND

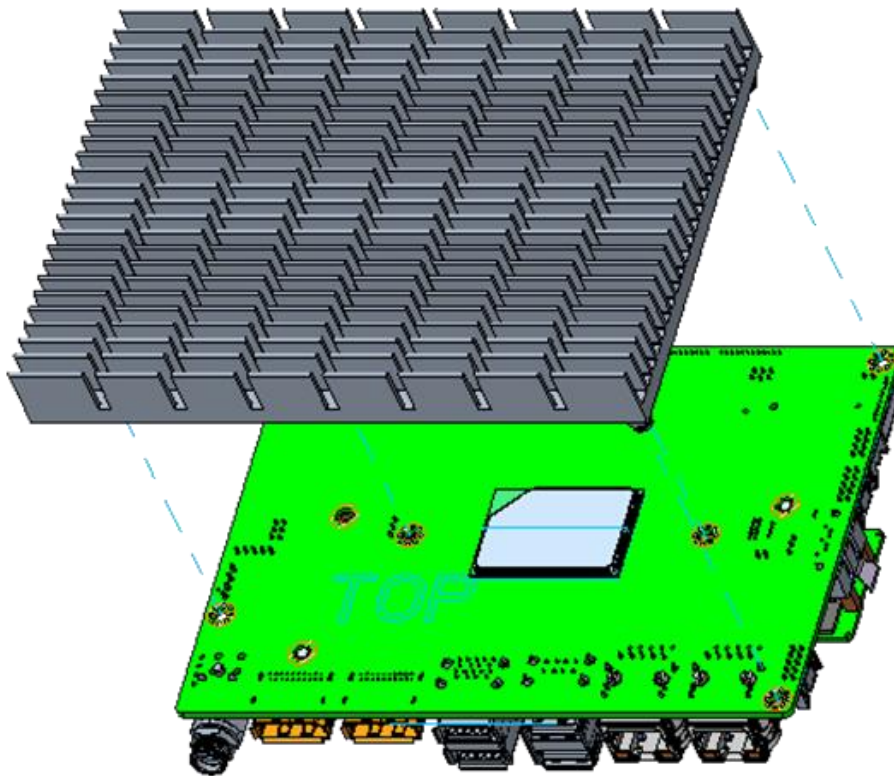
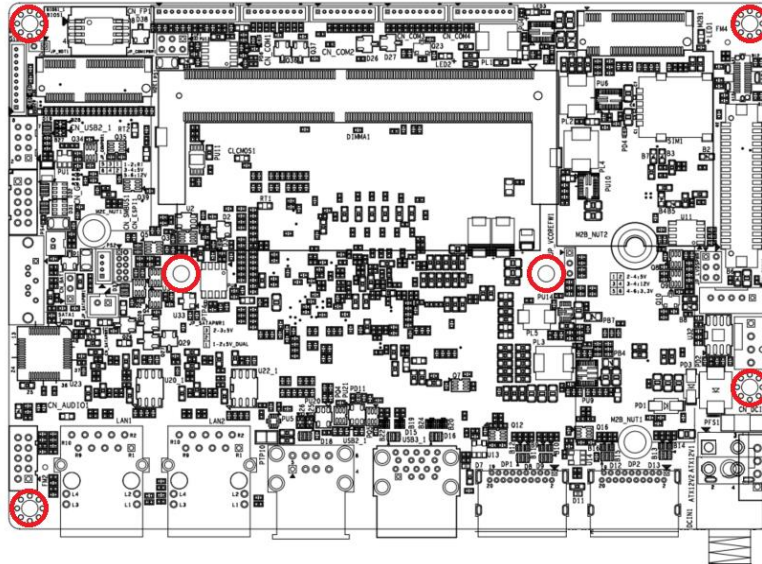
DRAM Installation

Hold the DRAM module by the sides and push it into the slot (pictured in red), with the gold contacts pointing towards the slot, until you can't see the gold contacts and the module is tightly in place. After ensuring that the DRAM module is securely in its slot, carefully push the module towards the board until it is flat and clips into place.



Heatsink Installation

The heatsink attaches to the board via six included screws, four around the edge, plus two closer to the center of the board. Screw locations are highlighted in red in the below image. To avoid damage to the board, please only use the screws included in the box.



Beep Codes

PEI Beep Codes	Description
1	Memory not Installed
1	InstallPeiMemory routine in PEI Core was called twice
2	Recovery started
3	DXE IPL was not found
3	DXE Core firmware volume was not found
4	Recovery failed
4	S3 resume failed
7	Reset PPI is not available
DXE Beep Codes	Description
1	Invalid password
3	Some of the architectural protocols are not available
4	No console input devices found
5	No console output devices found
6	Flash update failed
7	Reset protocol is not available
8	Platform PCI resource requirements cannot be met

Entering BIOS Setup

To enter the BIOS setup, press the DELETE key during system boot.

BIOS Controls

The BIOS is entirely controlled by the keyboard, using the following keys:

Hot Key	Description
Left/right	Switch selected menu
Up/down	Select item
Enter	Confirm selection or open sub menu
Plus/minus or F5/F6	Change the value of a setting
F1	Display help screen
F2	Restore previous value
F9	Load optimized default
F10	Save the selected setting
ESC	Discard changes and exit BIOS

BIOS Main Tab

The screenshot shows the BIOS Main Tab interface. At the top, there are navigation tabs: Main, Advanced, Chipset, Security, Boot, and Save & Exit. The main area is divided into two columns. The left column lists system information, and the right column provides instructions and navigation options.

Setting Name	Value	Instructions
Project Name	ASCI-020	Set the Date. Use Tab to switch between Date elements. Default Ranges: Year: 1998-9999 Months: 1-12 Days: Dependent on month Range of Years may vary.
BIOS Version	1.02	
FSP version	09.03.43.23	
RC version	09.03.43.23	
FSP Mode	API Mode	
CPU Type	Intel Atom(R) x6425RE	
CPU ID	Processor @ 1.90GHz	
Stepping	0x90661	
L1 Data Cache	B0	
L1 Instruction Cache	32 KB x 4	
L2 Cache	32 KB x 4	
L3 Cache	1536 KB x 4	
Number of Processors	4	
Microcode Revision	4 MB	
Memory RC Version	4Core(s) / 4Thread(s)	
Total Memory	15	
Memory Data Rate	0.0.4.104	
ME FW Version	8192 MB	
LAN1 MAC Address	2400 MTPS	
LAN2 MAC Address	15.40.16.2485	
System Date	F8-02-78-22-45-45	++: Select Screen ↑↓: Select Item Enter: Select +/-, F5/F6: Change Value F1: Help F2: Previous Values F9: Optimized Defaults F10: Save & Reset ESC: Exit
System Time	F8-02-78-22-45-46	
System Date	[Tue 09/01/2122]	
System Time	[09:34:02]	

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Location: Main

Setting Name	Available Options
System Date	01/01/1998 – 31/12/9999 (DD/MM/YYYY)
System Time	00:00:00 – 23:59:59 (HH/MM/SS)

BIOS Advanced Tab

The screenshot shows the BIOS Advanced Tab interface. At the top, there are navigation tabs: Main, Advanced, Chipset, Security, Boot, and Save & Exit. The main area is divided into two columns. The left column lists configuration options, and the right column provides instructions and navigation options.

Setting Name	Value	Instructions
ACPI Settings	System ACPI Parameters	++: Select Screen ↑↓: Select Item Enter: Select +/-, F5/F6: Change Value F1: Help F2: Previous Values F9: Optimized Defaults F10: Save & Reset ESC: Exit
CPU Configuration		
Power & Performance		
Trusted Computing		
LVDS Configuration		
DIO Settings		
Super IO Configuration		
Hardware Monitor		
Serial Port Console Redirection		
USB Configuration		
Network Stack Configuration		
NVMe Configuration		
System Date		
System Time		

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Location: Advanced > ACPI Settings

Setting Name	Available Options
Wake System from S5 via RTC	Enabled, Disabled
Wake up hour	0 – 23
Wake up minute	0 – 59
Wake up second	0 – 59
State After G3	S0 State, S5 State, Last State
Wake on PME	Enabled, Disabled
ErP Supported	Enabled, Disabled

Location: Advanced > Trusted Computing

Setting Name	Available Options
Intel (VMX) Virtualization Technology	Enabled, Disabled
Active Processor Cores	All, 1, 2, 3

Location:

Advanced > Power & Performance > CPU – Power Management Control

Setting Name	Available Options
Intel® SpeedStep™	Enabled, Disabled
C states	Enabled, Disabled
Package C State Limit	C0/C1, C2, C3, C6, C7, C7S, C8, C9, C10, CPU Default, Auto

Location: Advanced > Trusted Computing

Setting Name	Available Options
Security Device Support	Enabled, Disabled
Pending Operation	None, TPM Clear

Location: Advanced > LVDS Configuration

Setting Name	Available Options
LVDS Config	Enabled, Disabled
LCD Panel Type	1920x1200 24bit Dual, 1920x1080 24bit Dual, 1600x900 24bit Dual, 1366x768 24bit Single, 1280x1024 24bit Dual, 1024x768 24bit Single, 800x600 24bit Single, eDP pass-through mode

Location: Advanced > DIO Settings

Setting Name	Available Options
DIO PIN Type 1	Output Low, Output High, Input
DIO PIN Type 2	Output Low, Output High, Input
DIO PIN Type 3	Output Low, Output High, Input
DIO PIN Type 4	Output Low, Output High, Input
DIO PIN Type 5	Output Low, Output High, Input
DIO PIN Type 6	Output Low, Output High, Input
DIO PIN Type 7	Output Low, Output High, Input
DIO PIN Type 8	Output Low, Output High, Input

Location: Advanced > Super IO Configuration

Setting Name	Available Options
WatchDog Timer Unit	Second, Minute
Super IO WatchDog Timer	0 – 255, Disabled
COM1	Enabled, Disabled
COM2	Enabled, Disabled
Electrical Interface Mode	RS232, RS485, RS422
COM3	Enabled, Disabled
COM4	Enabled, Disabled
COM6	Enabled, Disabled

Location: Advanced > Hardware Monitor

Setting Name	Available Options
CPUFAN1 Mode	Manual mode, SMART FAN
Temperature 1	1 – 255
Temperature 2	1 – 255
Temperature 3	1 – 255
Temperature 4	1 – 255
FD/RPM 1	0 – 100
FD/RPM 2	0 – 100
FD/RPM 3	0 – 100
FD/RPM 4	0 – 100

Location: Advanced > Serial Port Console Redirection

Setting Name	Available Options
COM1 Console Redirection	Enabled, Disabled
COM2 Console Redirection	Enabled, Disabled
COM3 Console Redirection	Enabled, Disabled
COM4 Console Redirection	Enabled, Disabled
COM5 Console Redirection	Enabled, Disabled
COM6 Console Redirection	Enabled, Disabled
Console Redirection EMS	Enabled, Disabled

Location: Advanced > USB Configuration

Setting Name	Available Options
USB Mass Storage Driver Support	Enabled, Disabled

Location: Advanced > Network Stack Configuration

Setting Name	Available Options
Network Stack	Enabled, Disabled
IPv4 PXE Support*	Enabled, Disabled
IPv6 PXE Support	Enabled, Disabled
PXE boot wait time	0 – 6
Media detect count	1 – 50

Location:

Advanced > Tls Auth Configuration > Server CA Configuration > Enroll Cert

Setting Name
Enroll Cert Using File
Cert GUID

Location:

Advanced > VLAN Configuration > Enter Configuration Menu > Create New

Setting Name	Available Options
VLAN ID	0 – 4094
Priority	0 – 7

NOTE: To remove an already created VLAN, first set it to 'Enabled' on the Configured VLAN List, and then select the 'Remove VLAN' option. The 'Enabled' and 'Disabled' options act as a checkbox for the 'Remove VLAN' option and do not mean that the VLAN is actually enabled or disabled. The only way to disable a VLAN is to remove it.

Location: Advanced > IPv4 Network Configuration

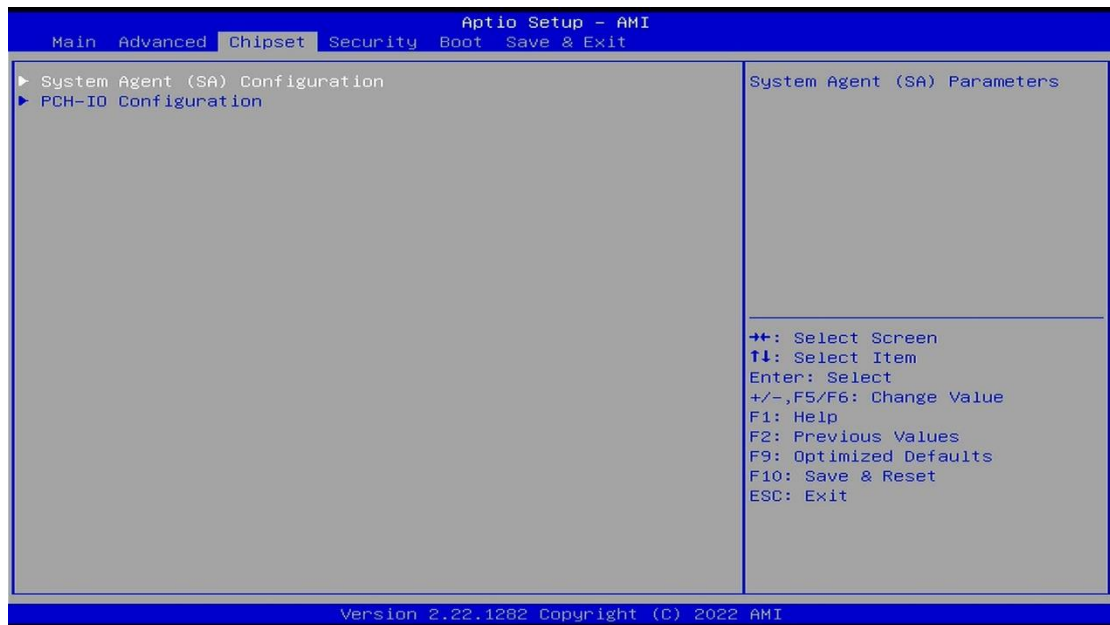
Setting Name	Available Options
Configured	Enabled, Disabled
Enable DHCP	Enabled, Disabled
Local IP Address	Dotted-decimal notation
Local NetMask	Dotted-decimal notation
Local Gateway	Dotted-decimal notation
Local DNS Servers	Dotted-decimal notation

Location:

Advanced > IPv6 Network Configuration > Enter Configuration Menu

Setting Name	Available Options
Interface ID	64 bit colon separated ID
DAD Transmit Count	1 – 10
Policy	Automatic, Manual

BIOS Chipset Tab



Location: Chipset > System Agent (SA) Configuration

Setting Name	Available Options
VT-d	Enabled, Disabled

Location:

Chipset > System Agent (SA) Configuration > Memory Configuration

Setting Name	Available Options
In-Band ECC	Enabled, Disabled
In-Band ECC Operation Mode	0, 1, 2

Location:

Chipset > PCH-IO Configuration > PCI Express Configuration > LAN1

Setting Name	Available Options
LAN1	Enabled, Disabled

Location:

Chipset > PCH-IO Configuration > PCI Express Configuration > LAN1

Setting Name	Available Options
M2E1	Enabled, Disabled
PCIe Speed	Auto, Gen1, Gen2, Gen3

Location:

Chipset > PCH-IO Configuration > PCI Express Configuration > EI01

Setting Name	Available Options
EI01	Enabled, Disabled
PCIe Speed	Auto, Gen1, Gen2, Gen3

Location:

Chipset > PCH-IO Configuration > PCI Express Configuration > M2B1

Setting Name	Available Options
M2B1	Enabled, Disabled
PCIe Speed	Auto, Gen1, Gen2, Gen3

Location:

Chipset > PCH-IO Configuration > PCI Express Configuration > LAN2

Setting Name	Available Options
LAN2	Enabled, Disabled

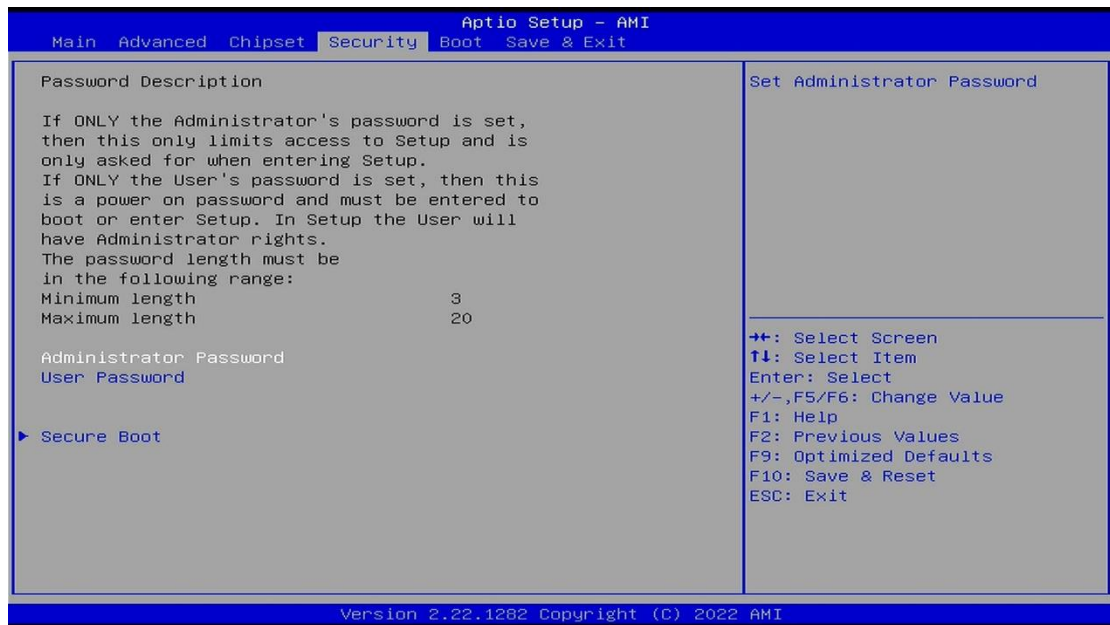
Location: Chipset > PCH-IO Configuration > SATA Configuration

Setting Name	Available Options
SATA Controller(s)	Enabled, Disabled
SATA Mode Selection	AHCI
Port 0 (M2B1)	Enabled, Disabled
Port 1 (SATA1)	Enabled, Disabled

Location: Chipset > PCH-IO Configuration > HD Audio Configuration

Setting Name	Available Options
HD Audio	Enabled, Disabled

BIOS Security Tab



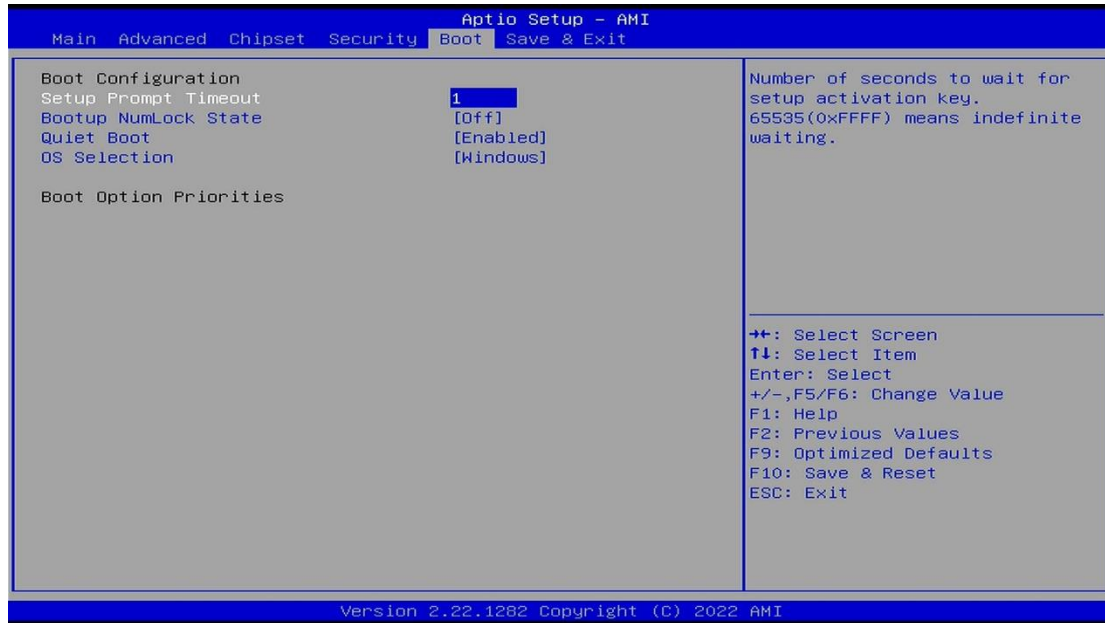
Location: Security

Setting Name	Available Options
Administrator Password	3 to 20 characters
User Password	3 to 20 characters

Location: Security > Secure Boot

Setting Name	Available Options
Secure Boot	Enabled, Disabled
Secure Boot Mode	Standard, Custom
Restore Factory Keys	Yes, No

BIOS Boot Tab



Location: Boot

Setting Name	Available Options
Setup Prompt Timeout	0 - 9999
Bootup NumLock State	On, Off
Quiet Boot	Enabled, Disabled
OS Selection	Windows, Linux, RealTime OS

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