USER'S MANUAL

CT-DML01 Series

3.5" Industrial Motherboard With Intel[®] Core[™] Ultra Processors



Table of Contents

Prefaces		04	
Revision		04	
Disclaimer			
Copyright I	Copyright Notice		
Trademark	Trademarks Acknowledgment		
Environme	ntal Protection Announcement	04	
Regulatory	Notices	05	
Battery Info	ormation	06	
Safety Info	rmation	08	
Technical S	upport and Assistance	09	
Chanter 1	Product Introductions	10	
	Product Incroductions	11	
1.1	Product Description	11	
1.2	BIOCK Didgidini	12	
1.3	Specifications	11	
1.4	Available Models	14	
1.5	Optional Accessories	14	
Chapter 2	Switches and Connectors	15	
2.1	Switch and Connector Locations	16	
	2.1.1 Top View	16	
	2.1.2 Bottom view	16	
	2.1.3 Rear I/O	16	
2.2	Connector / Switch Definition	17	
2.3	Definition of Connectors	18	
	2.3.1 DC_IN	18	
	2.3.2 EDP	19	
	2.3.3 LVDS	20	
	2.3.4 LVDS_P1	21	
	2.3.5 AUDIO	21	
	2.3.6 SPK	22	
	2.3.7 LAN1	23	
	2.3.8 LAN2	23	
	2.3.9 LAN3	24	
	2.3.10 RUSB_C1	25	
	2.3.11 USB1	26	
	2.3.12 USB2	26	
	2.3.13 COM1-2	27	
	2.3.14 COM3-4	28	
	2.3.15 GPIO	29	
	2.3.16 F_PANEL1	30	
	2.3.17 F_PANEL2	30	
	2.3.18 CPU_FAN1	31	
	2.3.19 P_SATA1	31	
	2.3.20 J_SMB1	32	
	2.3.21 BAT1	32	

Chapter 3	BIOS Setup	33
3.1	Description of the BIOS Options	34
	3.1.1 Main	34
3.2	Advanced	35
	3.2.1 CPU Configuration	37
	3.2.2 System Agent (SA) Configuration	41
	3.2.3 PCIE Configuration	47
	3.2.4 PCH-IO Configuration	48
	3.2.5 PCH-FW Configuration	52
	3.2.6 Trusted Computing	53
	3.2.7 ACPI Settings	54
	3.2.8 Super IO Configuration	55
	3.2.9 Hardware Monitor	56
	3.2.10 Display Configuration	57
	3.2.11 Power Control	58
	3.2.12 S5 RTC Wake Settings	59
	3.2.13 Network Stack Configuration	60
	3.2.14 NVMe Configuration	61
3.3	Security	63
	3.3.1 Secure Boot	64
3.4	Boot	65
3.5	Save & Exit	66
3.6	MEBx	67

Prefaces

Revision

Revision	Description	Date
1.0	Manual Released	2025/6/10

Disclaimer

All specifications and information in this User's Manual are believed to be accurate and up to date. Premio Inc. does not guarantee that the contents herein are complete, true, accurate or non-misleading. The information in this document is subject to change without notice and does not represent a commitment on the part of Premio Inc.

Premio Inc. disclaims all warranties, express or implied, including, without limitation, those of merchantability, fitness for a particular purpose with respect to contents of this User's Manual. Users must take full responsibility for the application of the product.

Copyright Notice

All rights reserved. No part of this manual may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or information storage and retrieval systems, without the prior written permission of Premio Inc. Copyright © Premio Inc.

Trademarks Acknowledgment

Intel[®], Celeron[®] and ATOM[®] are trademarks of Intel Corporation.

Windows® is registered trademark of Microsoft Corporation.

AMI is trademark of American Megatrend Inc.

IBM, XT, AT, PS/2 and Personal System/2 are trademarks of International Business Machines Corporation All other products and trademarks mentioned in this manual are trademarks of their respective owners.

Environmental Protection Announcement

Do not dispose this electronic device into the trash while discarding. Please recycle to minimize pollution and ensure environment protection.



Regulatory Notices

FCC-A Radio Frequency Interference Statement

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 in a residential installation. This equipment generates, uses and radiates radio frequency energy, and, if not installed and used in accordance with the instructions, 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.

NOTE

- The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- Shield interface cables and AC power cord, if any, must be used in order to comply with the emission limits.

FCC Conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

CE Conformity

Hereby, Premio Inc. declares that this device is in compliance with the essential safety requirements and other relevant provisions set out in the European Directive.

WEEE Statement

Under the European Union ("EU") Directive on Waste Electrical and Electronic Equipment, Directive 2012/19/EU, products of "electrical and electronic equipment" cannot be discarded as municipal waste anymore and manufacturers of covered electronic equipment will be obligated to take back such products at the end of their useful life.







Battery Information

Please take special precautions if this product comes with a battery.

- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.
- Avoid disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, which can result in an explosion.
- Avoid leaving a battery in an extremely high temperature or extremely low air pressure environment that can result in an explosion or the leakage of flammable liquid or gas.
- Do not ingest battery. If the coin/button cell battery is swallowed, it can cause severe internal burns and can lead to death. Keep new and used batteries away from children.

European Union:



Batteries, battery packs, and accumulators should not be disposed of as unsorted household waste. Please use the public collection system to return, recycle, or treat them in compliance with the local regulations.

BSMI:



For better environmental protection, waste batteries should be collected separately for recycling or special disposal.

California, USA:



The button cell battery may contain perchlorate material and requires special handling when recycled or disposed of in California. For further information please visit: http://www.dtsc.ca.gov/hazardouswaste/perchlorate/

Chemical Substances Information

In compliance with chemical substances regulations, such as the EU REACH Regulation (Regulation EC No. 1907/2006 of the European Parliament and the Council), Premio provides the information of chemical substances in products at:

www.premioinc.com

Environmental Policy

- The product has been designed to enable proper reuse of parts and recycling and should not be thrown away at its end of life.
- Users should contact the local authorized point of collection for recycling and disposing of their end-of-life products.
- Visit the Premio website and locate a nearby distributor for further recycling information.
- Users may also reach us at Premio for information regarding proper Disposal, Take-back, Recycling, and Disassembly of Premio products.



Green Product Features

- Reduced energy consumption during use and stand-by
- Limited use of substances harmful to the environment and health
- · Easily dismantled and recycled
- Reduced use of natural resources by encouraging recycling
- Extended product lifetime through easy upgrades
- Reduced solid waste production through take-back policy

Copyright and Trademarks Notice

Copyright Premio Inc. All rights reserved. The Premio logo used is a registered trademark of Premio Inc. All other marks and names mentioned may be trademarks of their respective owners. No warranty as to accuracy or completeness is expressed or implied. Premio reserves the right to make changes to this document without prior notice.

Technical Support

If a problem arises with your product and no solution can be obtained from the user's manual, please contact your place of purchase or local distributor. Alternatively, please visit www.premioinc.com

Safety Information

Before installing and using the equipment, please read the following precautions:

- The components included in this package are prone to damage from electrostatic discharge (ESD).
 Please adhere to the following instructions to ensure successful computer assembly.
- Ensure that all components are securely connected. Loose connections may cause the computer to not recognize a component or fail to start.
- Hold the motherboard by the edges to avoid touching sensitive components.
- It is recommended to wear an electrostatic discharge (ESD) wrist strap when handling the motherboard to prevent electrostatic damage. If an ESD wrist strap is not available, discharge yourself of static electricity by touching another metal object before handling the motherboard.
- Store the motherboard in an electrostatic shielding container or on an anti-static pad whenever the motherboard is not installed.
- Before turning on the computer, ensure that there are no loose screws or metal components on the motherboard or anywhere within the computer case.
- Do not boot the computer before installation is completed. This could cause permanent damage to the components as well as injury to the user.
- If you need help during any installation step, please consult a certified computer technician.
- Always turn off the power supply and unplug the power cord from the power outlet before installing or removing any computer component.
- Keep this user guide for future reference.
- Keep this motherboard away from humidity.
- Make sure that your electrical outlet provides the same voltage as is indicated on the PSU, before connecting the PSU to the electrical outlet.
- Place the power cord such a way that people can not step on it. Do not place anything over the power cord.
- All cautions and warnings on the motherboard should be noted.
- If any of the following situations arises, get the motherboard checked by service personnel:
 - Liquid has penetrated into the computer.
 - The motherboard has been exposed to moisture.
 - The motherboard does not work well or you can not get it work according to user guide.
 - The motherboard has been dropped and damaged.
 - The motherboard has obvious sign of breakage.
- Do not leave this motherboard in an environment above 60°C (140°F), it may damage the motherboard

Technical Support and Assistance

- Visit the Premio Inc website at <u>www.premioinc.com</u> where you can find the latest information about the product.
- 2. Contact your distributor, our technical support team or sales representative for technical support if you need additional assistance. Please have following information ready before you call:
 - Model name and serial number
 - Description of your peripheral attachments
 - Description of your software (operating system, version, application software, etc.)
 - A complete description of the problem
 - The exact wording of any error messages

Conventions Used in this Manual



VARNING

This indication alerts operators to an operation that, if not strictly observed, may result in severe injury.



This indication alerts operators to an operation that, if not strictly observed, may result in safety hazards to personnel or damage to equipment.



VOT

This indication provides additional information to complete a task easily.

Chapter 1

Product Introductions

Chapter 1: Product Introductions

1.1 Product Description

3.5" SBC Industrial Motherboard With Intel $^{\mbox{\scriptsize BC}}$ Core $^{\mbox{\scriptsize TM}}$ Ultra Processors, Meteor Lake-U



- Supports Intel[®] CoreTM Ultra Processors, Meteor Lake-U, TDP 15W
- 1x 262-pin DDR5 5600 SO-DIMM. Max. up to 32GB
- 3x Intel[®] 2.5 GbE
- Quad simultaneous display: 2x DP, LVDS, eDP
- 1x M.2 M Key for NVMe/ SATA, Auto detect
- 1x M.2 B Key for 4G/5G support, 1x M.2 E Key for Wifi/Bluetooth
- 2x SIM Nano Socket
- 1x USB Type-C Gen 1, 2x USB 3.2 Gen 1, 1x USB 2.0
- 4x Internal COM, 1x 8-bit GPIO
- Watchdog timer 1~255sec. system reset
- dTPM 2.0 Supported
- Wide Voltage DC IN 12~24V

1.2 Block Diagram



1.3 Specifications

System

Processor

Support Intel[®] CoreTM Ultra Processors

- Intel[®] CoreTM Ultra 5 Processor 125U 12M Cache, up to 4.30 GHz (2+8+2 core)
- Intel[®] CoreTM Ultra 7 Processor 155U 12M Cache, up to 4.80 GHz (2+8+2 core)

System Chipset	SoC		
LAN Chipset	 GbE1: Intel i226-LM 2.5GbE LAN PXE Support GbE2: Intel i226-V 2.5GbE LAN PXE Support GbE3: Intel i226-V 2.5GbE LAN PXE Support 		
Audio Codec	Realtek [®] ALC897 CODEC		
System Memory	1x 262-Pin DDR5 5600MHz SO-DIMM. Max. up to 32GB (Non-ECC)		
Watchdog	Software Programmable Supports 1~255 sec. System Reset		
TPM	dTPM2.0, fTPM2.0		

Display	
Display Port	2x DP++ 1.4 up to 3040x2160 @60Hz
eDP	1x eDP 1.4b, max 3840x2160 @60Hz
LVDS	1x LVDS up to 1920x1200 @60Hz, dual channel
Multiple Display	Quad simultaneous display

Storage	
M.2	1x M.2 M Key (2280, PCle x4 Gen 4/SATA) support for NVMe/SATA SSD, Auto Detect
Expansion	
M 2	• 1 x M 2 B Key (3042/3052 PCIe x2+USB

3.0+USB 2.0) support for 4G/5G 1 x M.2 E Key (2230, PCIe+USB 2.0) for

Wifi/Bluetooth

Physical	
Dimensions	146 mm x 102 mm

Rear I/O		
Audio	1x L	ine-Out +MIC
Display Port	2x [DisplayPort
LAN	3x 2	2.5GbE RJ45
SIM	2x S	SIM Nano Socket
USB	1x U 2x U 1x U	JSB 3.2 Type-C (5 Gbps) JSB 3.2 Gen 1 (5 Gbps) JSB 2.0
Internal I/0	b	
COM	4x CO COM COM	OM (Internal) I1: RS232/422/485 I2-4: RS232
GPIO	1x G	PIO 8-pin header (4 In/4 Out)
USB	4x U	SB 2.0 Internal 2.0PH Headers
Operating	System)
Windows	Microsoft [®] Windows [®] 10 Windows 11	
Linux	Linux L	Jbuntu 22.04
Power		
Power Adapter		AC/DC Adpater 20V/7.5A, 150W (Optional)
Power Mode		AT/ ATX
Power Supply Voltage		DC IN 12~24V
Power Connector		Micro fit pitch 3.0 2x2 pin
Power Protection		OVP (Over Voltage Protection) OCP (Over Current Protection) Reverse Protection Surge Protection
Environme	nt	
Form Factor		3.5" Embedded SBC

Environment	
Form Factor	3.5" Embedded SBC
Operating Temperature	0°C to 60°C
Storage Temperature	-20°C to 75°C
Relative Humidity	10% to 95% (non- condensing)
Certification	CE, FCC Class A, ICES-003, UKCA

1.4 Available Models

Ordering Information	DESCRIPTION
• CT-DML01-125U-KIT	Industrial Motherboard with Intel® Core Ultra 5 125U 3.5" SBC Board Ver1.0 Packing Kit w/MB
• CT-DML01-155U-KIT	Industrial Motherboard with Intel® Core Ultra 7 155U 3.5″ SBC Board Ver1.0 Packing Kit w/MB

1.5 Optional Accessories

1-E09A15001	AC-DC Power Adapter W/Lock 20V_7.5A_150W
1-TPCD00008	Power Supply Cord_3Pin_1830mm_IEC-320-C5 To AC US Type

Chapter 2

Switches and Connectors

2.1 Switch and Connector Locations



EDP





2.2 Connector / Switch Definition

Connector Location	Definition
U1	CPU
DIMM1	DDR5 SO-DIMM Slot
DC_IN	DC 12-24V Power Input 4P Micro-Fit Connector
EDP	eDP Signal I-PEX Connector
LVDS	LVDS Signal DF13 Wafer
LVDS_P1	LVDS Backlight Control Wafer
DP++1	DP++ Upright Connector
DP++2	DP++ Upright Connector
PJ1	Line-Out + MIC 2in1 3.5mm Jack
AUDIO	Front Audio Wafer (Line-Out + MIC + Line-In)
SPK	Left+ Right Amplifier Wafer
M.2_KEY M	M.2 M KEY (PCIE x4/SATA, Auto Detect, 2280)
M.2_KEY B	M.2 B KEY (PCIE x2/USB3.0+USB2.0, 3042/3052)
M.2_KEY E	M.2 E KEY (PCIE+USB2.0, 2230)
SIM1	Nano SIM Card Slot1
SIM2	Nano SIM Card Slot2
LAN1	2.5GbE LAN RJ45 Connector1
LAN2	2.5GbE LAN RJ45 Connector2
LAN3	2.5GbE LAN RJ45 Connector3
R_USB1	Dual USB3.0+USB2.0 TYPE-A Connector
R_USB2	USB3.0 TYPE-A Connector
RUSB_C1	USB3.0 TYPE-C Connector
USB1	Front Dual USB2.0 Wafer
USB2	Front Dual USB2.0 Wafer
COM1-2	COM1+COM2 Wafer
COM3-4	COM3+COM4 Wafer
GPIO	GPIO Wafer
PANEL1	Front Panel Wafer1
PANEL2	Front Panel Wafer2
CPU_FAN1	CPU FAN Wafer

2.3 Definition of Connectors

2.3.1 DC 12V/24V Power Input: Micro-Fit, 2*2P, 3.00 mm





DC_IN

Pin	Definition	Pin	Definition
1	GND	2	GND
3	DC_IN	4	DC_IN

19

2.3.2 eDP: I-PEX, 40P, 0.5mm





EDP

Pin	Definition	Pin	Definition
1	VCC3.3/VCC5 ^[1]	21	EDP2_TX1+
2	VCC3.3/VCC5 ^[1]	22	GND
3	VCC3.3/VCC5 ^[1]	23	EDP2_TX0-
4	VCC3.3/VCC5 ^[1]	24	EDP2_TX0+
5	VCC3.3/VCC5 ^[1]	25	GND
6	VCC3.3	26	EDP2_AUX+
7	SMB_SCL	27	EDP2_AUX-
8	SMB_SDA	28	GND
9	GND	29	VCC3.3
10	EDP_HPD	30	GND
11	N/C	31	VCC12
12	N/C	32	GND
13	GND	33	GND
14	EDP2_TX3-	34	VCC5
15	EDP2_TX3+	35	GND
16	GND	36	EPD2_BKLT_CTL
17	EDP2_TX2-	37	EPD2_BKL_EN
18	EDP2_TX2+	38	VCC12
19	GND	39	VCC3.3
20	EDP2_TX1-	40	GND

2.3.3 LVDS: DF13, 20*2P, 1.25mm



日

LVDS

Pin	Definition	Pin	Definition
1	VCC12	2	VCC12
3	VCC3.3/VCC5 ^[1]	4	VCC12
5	VCC3.3/VCC5 ^[1]	6	VCC3.3/VCC5 ^[1]
7	LVDS_SPC	8	LVDS_SPD
9	LVDS_BKLT_CTL	10	LVDS_BKL_EN
11	VCC3.3	12	LVDS_DET
13	LVDS_A_DATA1+	14	LVDS_A_DATA0+
15	LVDS_A_DATA1-	16	LVDS_A_DATA0-
17	GND	18	GND
19	LVDS_A_DATA3+	20	LVDS_A_DATA2+
21	LVDS_A_DATA3-	22	LVDS_A_DATA2-
23	GND	24	GND
25	LVDS_B_DATA1+	26	LVDS_B_DATA0+
27	LVDS_B_DATA1-	28	LVDS_B_DATA0-
29	GND	30	GND
31	LVDS_B_DATA3+	32	LVDS_B_DATA2+
33	LVDS_B_DATA3-	34	LVDS_B_DATA2-
35	GND	36	GND
37	LVDS_A_CLK+	38	LVDS_B_CLK+
39	LVDS_A_CLK-	40	LVDS_B_CLK-

2.3.4 LVDS Backlight Control: Wafer, 6*1P, 1.25mm





LVDS_P1

Pin	Definition	Pin	Definition
1	VCC5/VCC12 ^[1]	4	LVDS_BKLT_CTL
2	VCC5/VCC12 ^[1]	5	GND
3	LVDS_BKL_EN	6	GND

2.3.5 Front Audio: Wafer,(Line-Out + MIC + Line-In) 5*2P, 2.00mm



AUDIO

Pin	Definition	Pin	Definition
1	LINE_IN_R	2	MIC_IN2_R
3	LINE_IN_L	4	MIC_IN2_L
5	LINE_OUT_R	6	MIC2_JD
7	LINE_OUT_L	8	LINE_JD
9	LINE2_JD	10	GND_AUD

2.3.6 Left+ Right Amplifier: Wafer 4*1P, 1.25mm





SPK

Pin	Definition	Pin	Definition
1	SPK_OUT_L-	3	SPK_OUT_R-
2	SPK_OUT_L+	4	SPK_OUT_R+

2.3.7 2.5GbE LAN RJ45 Connector1





LAN1

Pin		Definition	Pin		Definition	
1	MDI0+		4		MDI2-	
2	MDI0-		5		MDI1-	
3	MDI1+		7		MDI3+	
4	MDI2+		8	MDI3-		
		ACT: Twinkling Yellow			1000M: Turn Orange	
A	Active LED	Only LINK: Lights On	В	Speed	1000M: Turn Green	
		Only LINK: Lights Off			10M: Lights Off	

2.3.8 2.5GbE LAN RJ45 Connector2

LAN2

Pin		Definition	Pin		Definition	
1	MDI0+		4		MDI2-	
2	MDI0-		5		MDI1-	
3	MDI1+		7		MDI3+	
4	MDI2+		8	MDI3-		
		ACT: Twinkling Yellow			1000M: Turn Orange	
А	Active LED	Only LINK: Lights On	В	Speed	1000M: Turn Green	
		Only LINK: Lights Off			10M: Lights Off	

2.3.9 2.5GbE LAN RJ45 Connector3





LAN3

Pin		Definition	Pin		Definition	
1	MDI0+		4		MDI2-	
2	MDI0-		5		MDI1-	
3	MDI1+		7		MDI3+	
4	MDI2+		8	MDI3-		
		ACT: Twinkling Yellow			1000M: Turn Orange	
A	Active LED	Only LINK: Lights On	В	Speed	1000M: Turn Green	
		Only LINK: Lights Off			10M: Lights Off	







RUSB_C1

Pin	Definition	Pin	Definition
A1	GND	B1	GND
A2	SS_C1_TX1+	B2	SS_C1_TX2+
A3	SS_C1_TX1-	B3	SS_C1_TX2+
A4	VBUS	B4	VBUS
A5	C1_CC1	B5	C1_CC2
A6	USB2.0+	B6	USB2.0+
A7	USB2.0-	B7	USB2.0-
A8	N/C	B8	N/C
A9	VBUS	B9	VBUS
A10	SS_C1_RX2+	B10	SS_C1_RX1+
A11	SS_C1_RX2-	B11	SS_C1_RX1-
A12	GND	B12	GND

2.3.11 Front Dual USB2.0: Wafer, 4*2P, 2.00mm





USB1

Pin	Definition	Pin	Definition
1	GND	2	5V
3	USB_0+	4	USB_1-
5	USB_0-	6	USB_1+
7	5V	8	GND

2.3.12 Front Dual USB2.0: Wafer, 4*2P, 2.00mm



USB2

Pin	Definition	Pin	Definition
1	GND	2	5V
3	USB_0+	4	USB_1-
5	USB_0-	6	USB_1+
7	5V	8	GND





2.3.13 COM1+COM2: Wafer, 10*2P, 1.00mm





COM1-2

Pin	Definition	Pin	Definition
1	COM1_RS232_DCD/ COM1_RS422_TXD-/ COM1_RS485_TXD-	2	COM2_RS232_DCD
3	COM1_RS232_RXD/ COM1_RS422_TXD+/ COM1_RS485_TXD+	4	COM2_RS232_RXD
5	COM1_RS232_TXD/ COM1_RS422_RXD+	6	COM2_RS232_TXD
7	COM1_RS232_DTR/ COM1_RS422_RXD+	8	COM2_RS232_DTR
9	GND	10	GND
11	COM1_RS232_DSR	12	COM2_RS232_DSR
13	COM1_RS232_RTS	14	COM2_RS232_RTS
15	COM1_RS232_CTS	16	COM2_RS232_CTS
17	COM1_RS232_RI	18	COM2_RS232_RI
19	N/C	20	N/C

2.3.14 COM3+COM4: Wafer, 10*2P, 1.00mm





COM3-4

Pin	Definition	Pin	Definition
1	COM3_RS232_DCD	2	COM4_RS232_DCD
3	COM3_RS232_RXD	4	COM4_RS232_RXD
5	COM3_RS232_TXD	6	COM4_RS232_TXD
7	COM3_RS232_DTR	8	COM4_RS232_DTR
9	GND	10	GND
11	COM3_RS232_DSR	12	COM4_RS232_DSR
13	COM3_RS232_RTS	14	COM4_RS232_RTS
15	COM3_RS232_CTS	16	COM4_RS232_CTS
17	COM3_RS232_RI	18	COM4_RS232_RI
19	N/C	20	N/C

2.3.15 GPIO: Wafer, 5*2P, 2.00mm





GPIO

Pin	Definition	Pin	Definition
1	GPO7	2	GPO3
3	GPO6	4	GPO2
5	GPO5	6	GPO1
7	GPO4	8	GPO0
9	GND	10	VCC5

1

2

. .

•



2.3.16 Front Panel: Wafer, 5*2P, 2.00mm



F_PANEL1

Pin	Definition	Pin	Definition
1	N/C		
3	Reset+	4	Power On-
5	GND	6	Power On+
7	HDD LED-	8	Sus LED
9	HDD LED+	10	Power LED

2.3.17 Front Panel: Wafer, 5*1P, 1.25mm



F_PANEL2

Pin	Definition	Pin	Definition
1	VCC5	2	Power On_N
3	GND	4	VCC3.3 STB
5	Reset_N		



2.3.18 CPU FAN Wafer





1

CPU_FAN1

Pin	Definition	Pin	Definition
1	GND	3	FAN Speed Detection
2	VCC12	4	FAN Speed Control

2.3.19 SATA Power Wafer





P_SATA1

Pin	Definition	Pin	Definition
1	VCC5S	3	GND
2	VCC5S	4	GND

2.3.20 SMBus Wafer





J_SMB1

Pin	Definition	Pin	Definition
1	VCC5	3	SMB_SDA
2	SMB_SCL	4	GND

2.3.21 CMOS Battery Wafer



BAT1

Pin	Definition	Pin	Definition
1	VCC_BAT	2	GND



System BIOS

3.1 Description of the BIOS Options

Due to the differences in the specific model of the motherboard and the update of the BIOS version, there may be a few menus that do not match this manual, please take the actual basis.

3.1.1 Main

Main Advanced Security Boot	Aptio Setup – AMI Save & Exit MEBx	
BIOS Information BIOS Version Build Date and Time	S873A013-SHZA 09/20/2024 16:24:42	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.
System Date System Time Access Level	[Thu 05/08/2025] [14:10:30] Administrator	
		<pre> ++: Select Screen 1↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit</pre>
Versi	on 2.22.1293 Copyright (C) 20	24 AMI B4

This menu contains the following information:

- BIOS Version
 - Display the BIOS version information.
- Build Date and Time Display the BIOS Build date and time.
- System Date
 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.
- System Time

Set the time. Use Tab to switch between time elements.

 Access Level Display the current access level to BIOS Setup Utility.

3.2 Advanced

Aptio Setup – AMI Main Advanced Security Boot Save & Exit MEBx	
 CPU Configuration System Agent (SA) Configuration PCIE Configuration PCH-IO Configuration PCH-FW Configuration Trusted Computing ACPI Settings Super IO Configuration Hardware Monitor Display Configuration Power Control S5 RTC Wake Settings Network Stack Configuration NVMe Configuration 	CPU Configuration Parameters
	t↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit
Version 2.22.1293 Copyright (C) 2024	AMI

This menu contains the following information:

- CPU Configuration CPU Configuration Parameters.
- System Agent (SA) Configuration System Agent (SA) Parameters.
- PCIE Configuration
 PCIE Parameters.
- PCH-IO Configuration PCH Parameters.
- PCH-FW Configuration
 Configure Management Engine Technology Parameters.
- Trusted Computing Trusted Computing Settings.
- ACPI Settings System APCI Parameters.
- Super IO Configuration System Super IO Chip Parameters.
- Hardware Monitor Monitor hardware status.
- Display Configuration
 Display Configuration Parameters.
- Power Control
- S5 RTC Wake Settings

Enable system to wake from S5 using RTC alarm.

- Network Stack Configuration Network Stack Settings.
- NVMe Configuration
 NVMe Device Options Settings.

3.2.1 CPU Configuration

Advanced	Aptio Setup – AMI	
CPU Configuration		Displays the E-core Information
 Efficient-core Information Performance-core 		
ID Brand String VMX SMX/TXT	0xA06A4 Intel(R) Core(TM) Ultra 7 155U Supported Supported	
 Config TDP Configurations Intel(R) SpeedStep(tm) Intel(R) Speed Shift Technology Turbo Mode C states Intel (VMX) Virtualization Technology X2APIC Enable Hyper-Threading 	[Enabled] [Enabled] [Disabled] [Enabled] [Disabled] [Enabled]	<pre>++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit</pre>
Version	n 2.22.1293 Copyright (C) 202	4 AMI

This menu contains the following information:

- Efficient-core Information Displays the E-core Information.
- Performance-core Displays the P-core Information.
- ID

Display the Processor ID.

- Brand String Display the Brand String.
- VMX

VMX (Virtual-Machine Extensions) supported or not.

- SMX/TXT SMX (Safer Mode Extensions) /TXT (Trusted Execution Technology) Supported or not.
- Config TDP Configurations cTDP (Assured Power) Configurations.
- Intel(R) Speed Step(tm)
 Allows more than two frequency ranges to be supported.
- Intel(R) Speed Shift Technology
 Enable or Disable Intel(R) Speed Shift Technology support. Enabling will expose the CPPC v2 interface to allow for hardware controlled P-states.

- Turbo Mode Enable or Disable processor Turbo Mode.
- C states
 - Enable or Disable CPU Power Management. Allows CPU to go to C states when it's not 100% utilized.
- Intel (VMX) Virtualization Technology
- When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.
- X2APIC Enable
 - Enable or Disable X2APIC Operating Mode.

When this option is configured as 'Enabled', 'VT-d' option must be 'Enabled' and 'X2APIC Opt Out' option must be 'Disabled' as well.

- This option will be grayed out when 'VT-d' option is configured as 'Disabled'.
- Hyper-Threading
 Enable or Disable Hyper-Threading Technology.

3.2.1.1 Config TDP Configurations

Aduational	Aptio Setup – AMI	
Huvanceu		
Config TDP Configurations		Applies cTDP (Assured Power) initialization settings based
Enable Configurable TDP Configurable TDP Boot Mode Configurable TDP Lock CTDP BIOS control ConfigTDP Levels ConfigTDP Turbo Activation Ratio Power Limit 1 Power Limit 2	[Applies to cTDP] [Nominal] [Disabled] [Disabled] 3 16 (Unlocked) 15.0W (MSR:15.0) 57.0W (MSR:57.0)	on non-cTDP (Assured Power) or cTDP (Assured Power). Default is 1: Applies to cTDP (Assured Power); if 0 then applies non-cTDP (Assured Power) and BIOS will bypass cTDP (Assured Power) initialzation flow
Custom Settings Nominal ConfigTDP Nominal	Ratio:17 TAR:16	
	PL1:15.0W	++: Select Screen
Power Limit 1 Rewer Limit 2	0	I∔: Select item
Power Limit 1 Time Window	[0]	Enter, Select
ConfigTDP Turbo Activation Ratio	0	F1: General Help F2: Previous Values
Custom Settings Level1		F3: Optimized Defaults
ConfigTDP Level1	Ratio:14 TAR:13 PL1:12.0W	F4: Save & Exit Pause: Print Screen
Power Limit 1	0	ESC: Exit
Power Limit 2	0	
Power Limit 1 Time Window	[0]	
Version '	2 22 1292 Copupidht (C) 2024	омт.

This menu contains the following information:

• Enable Configurable TDP

Applies cTDP (Assured Power) initialization settings based on non-cTDP (Assured Power) or cTDP (Assured Power). Default is 1: Applies to cTDP (Assured Power); if 0 then applies non-cTDP (Assured Power) and BIOS will bypass cTDP (Assured Power) initialization flow.

Configurable TDP Boot Mode

cTDP (Assured Power) Mode as Nominal/Level1/Level2/Deactivate TDP (Base Power) selection. Deactivate option will set MSR to Nominal and MMIO to Zero.

• Configurable TDP Lock

cTDP (Assured Power) Mode Lock sets the Lock bits on TURBO_ACTIVATION_RATIO and CONFIG_TDP_CONTROL.

Note: When CTDP (Assured Power) Lock is enabled Custom ConfigTDP Count will be forced to 1 and Custom ConfigTDP Boot Index will be forced to 0.

CTDP BIOS control

Enables cTDP (Assured Power) control via runtime ACPI BIOS methods. This 'BIOS only' feature does not require EC or driver support.

Custom Settings Nominal/Level1/Level2

• ConfigTDP Nominal/Level1/Level2

The options are as follows:

Power Limit 1: Power Limit 1 in Milli Watts. BIOS will round to the nearest 1/8W when programming. 0 = no custom override. For 12.50W, enter 12500. Overclocking SKU: Value must be between Max

and Min Power Limit and Processor Base Power (TDP) Limit.

Power Limit 2: Power Limit 2 value in Milli Watts. BIOS will round to the nearest 1/8W when programming. 0 = no custom override. For 12.50W, enter 12500. Processor applies control policies such that the package power does not exceed this limit.

Power Limit 1 Time Window: Power Limit 1 Time Window value in seconds. The value may vary from 0 to 128. 0 = default value (28 sec for Mobile and 8 sec for Desktop). Defines time window which Processor Base Power (TDP) value should be maintained.

ConfigTDP Turbo Activation Ratio: Custom value for Turbo Activation Ratio. Needs to be configured with valid values from LFM to Max Turbo. 0 means don't use custom value.

3.2.2 System Agent (SA) Configuration

Advanced	Aptio Setup – AMI	
System Agent (SA) Configuration Memory Configuration Graphics Configuration TCSS setup menu VMD setup menu VT-d setup menu		Memory Configuration Parameters
GNA Device (B0:D8:F0) Above 4GB MMIO BIOS assignment NPU Device (B0:D11:F0)	[Enabled] [Enabled] [Enabled]	<pre>++: Select Screen 1↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit</pre>
Version 2	.22.1293 Copyright (C) 2024	AMI

This menu contains the following information:

- Memory Configuration Memory Configuration Parameters.
- Graphics Configuration Graphics Configuration.
- TCSS setup menu TCSS Configuration settings.
- VMD setup menu
 VMD Configuration settings.
- VT-d setup menu
 VT-d Configuration settings.
- GNA Device (B0:D8:F0) Enable or Disable SA GNA Device.
- Above 4GB MMIO BIOS assignment Enable or Disable above 4GB Memory Mapped IO BIOS assignment. This is enabled automatically when Aperture Size is set to 2048MB.
- NPU Device (B0:D11:F0)
 Enable or Disable NPU (Neural Processing Unit) Device.

3.2.2.1 Memory Configuration

Advanced	Aptio Setup — AMI	
Advanced Memory Configuration Memory RC Version Memory Frequency tCL-tRCD-tRP-tRAS MC 0 Ch 0 DIMM 0 Size Number of Ranks Manufacturer	Aptio Setup - AMI 1.2.4.9 4800 MHz 40-39-39-77 Populated & Enabled 8192 MB (DDR5) 1 Samsung	++: Select Screen 11: Select Item Enter: Select +/-: Change Opt.
		F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit
	Version 2.22.1293 copyright (C) 202	14 HILL

This menu contains the following information:

Memory Configuration
 Display the Memory RC Version, Data Rate, Timings, etc.

3.2.2.2 Graphics Configuration

Aduanced	Aptio Setup – AMI	
Graphics Configuration		Select AUTO set IGD to be Primary Display if no external
Primary Display Internal Graphics	[Auto] [Auto]	Graphics Device connected otherwise external Graphics Device detected on first PCIe port will be Primary Display or Select IGFX for IGD to be Primary Display Or Select HG for Hybrid Gfx.
		++: Select Screen ↑↓: Select Item
		Enter: Select
		F1: General Help
		F2: Previous Values F3: Optimized Defaults F4: Save & Exit
		Pause: Print Screen ESC: Exit
Ve	rsion 2.22.1293 Copyright (C)	2024 AMI

This menu contains the following information:

• Primary Display

Select AUTO set IGD to be Primary Display if no external Graphics Device connected otherwise external Graphics Device detected on first PCIE port will be Primary Display or Select IGFX for IGD to be Primary Display Or select HG for Hybrid Gfx.

Internal Graphics

Keep IGFX enabled based on the setup options.

3.2.2.3 TCSS setup menu

Advanced	Aptio Setup – AMI	
TCSS Configuration		Enable/Disable TCSS xHCI
IOM FW version: 30001A00		
PHY FW version: 1B65		
TBT FW IMR Status: 00000000 TBT FW version: N/A Deepest TC state: 0000		
TCSS ×HCI Support ▶ TCSS USB Configuration	[Enabled]	
		<pre> ++: Select Screen f↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit</pre>
Version 2.	.22.1293 Copyright (C) 2024	AMI

This menu contains the following information:

- TCSS xHCl Support Enable or Disable TCSS xHCl.
 TCSS USB Configuration
- TCSS USB Configuration
 SA TCSS USB Configuration settings.

The option after entering the interface settings above is as follows:

TCSS CPU USB Port Disable Override: Selectively Enable or Disable the corresponding USB port from reporting a Device Connection to the controller.

3.2.2.4 VMD setup menu

Advanced Advanced	
VMD Configuration	Enable/Disable to VMD controller
Enable VMD controller [Disabled]	
	<pre>++: Select Screen f↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit</pre>
Version 2 22 1293 Copuright (C) 2024	Pause: Print Screen ESC: Exit

This menu contains the following information:

• Enable VMD controller Enable or Disable to VMD controller.

3.2.2.5 VT-d setup menu

Advanced	Aptio Setup – AMI	
VT–d Configuration		Check to enable VT-d function
VT-d	Supported	This option will be grayed out when 'X2APIC Enable' option is
VT-d Pre-boot DMA Protection X2APIC Opt Out DMA Control Guarantee	[Enabled] [Enabled] [Disabled] [Enabled]	configured as 'Enabled'.
		<pre>++: Select Screen f4: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit</pre>
Ver	sion 2.22.1293 Copyright (C) 20	024 AMI

This menu contains the following information:

- VT-d Check to enable VT-d function on MCH. This option will be grayed out when 'X2APIC Enable' option is configured as 'Enabled'.
 Pre-boot DMA Protection Enable DMA Protection in Pre-boot environment (If DMAR table is installed in DXE and If VTD_INFO_PPI Is installed in PEI).
- X2APIC OPT OUT
 Enable or Disable X2APIC_OPT_OUT bit.
 This option will be grayed out when 'X2APIC Enable' option is configured as 'Enabled'.
- DMA Control Guarantee
 Enable or Disable DMA_CONTROL_GUARANTEE bit.

3.2.3 PCIE Configuration

Advanced	Aptio Setup – AMI
Advanced SOC Configuration > M.2_KEYM_PCIESSD1 > LAN1 > LAN2 > M.2_KEYE_WLAN1 > LAN3 > M.2_KEYB_WWAN1	PCI Express Root Port Settings. ++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit
	Pause: Print Screen ESC: Exit
Version 2.2	2.1293 Copyright (C) 2024 AMI

This menu contains the following information:

• M.2_KEYM_PCIESSD1/LAN1/LAN2/M.2_KEYE_WLAN1/LAN3/M.2_KEYB_WWAN1: PCI Express Root Port Settings.

The options after entering the interface settings above are as follows.

PCI Express Root Port PXPA1/PXPB1/PXPB2/PXPB3/PXPB4/PXPC: Control the PCI Express Root Port. PCIe Speed: Configure PCIe Speed.

3.2.4 PCH-IO Configuration

Aptio Setup – AMI Advanced	
 PCH-IO Configuration SATA Configuration USB Configuration HD Audio Configuration 	SATA Device Options Settings
	Enter: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values
	F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit
Version 2.22.1293 Copyright (C) 2024	AMI

This menu contains the following information:

- SATA Configuration SATA Device Options Settings.
- USB Configuration
 USB Configuration Settings.
- HD Audio Configuration
 HD Audio Subsystem Configuration Settings.

3.2.4.1 SATA Configuration

Advanced	Aptio Setup — AMI	
SATA Configuration		Enable/Disable SATA Device.
SATA Controller(s) SATA Mode Selection	[Enabled] [AHCI]	
M.2_KEYM_PCIESSD1 Port O	Empty [Enabled]	
		++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen
	Version 2.22.1293 Conveight (F	ESC: Exit

This menu contains the following information:

- SATA Controller(s) Enable or Disable SATA Device.
- SATA Mode Selection Determines how SATA controller(s) operate.
- M.2_KEYM_PCIESSD1
- Display M.2_KEYM_PCIESSD1 Information.
- Port X Enable or Disable SATA Port X.

3.2.4.2 USB Configuration

Advanced	Aptio Setup — AMI	
USB Configuration		USB3.1 Speed selection; Gen1
USB3.1 Port O Speed Selection USB3.1 Port 1 Speed Selection	[Gen 1] [Gen 1]	ur Genz
USB Port Disable Override	[Disabled]	
		†↓: Select Item Enter: Select
		+/−: Change Opt. F1: General Help
		F2: Previous Values F3: Optimized Defaults
		F4: Save & Exit Pause: Print Screen
		ESC: Exit
Version	2.22.1293 Copyright (C) 2024	AMI

This menu contains the following information:

- USB3.1 Port 0 Speed Selection USB3.1 Speed selection; Gen1 or Gen2.
- USB3.1 Port 1 Speed Selection USB3.1 Speed selection; Gen1 or Gen2.
- USB Port Disable Override

Selectively Enable or Disable the corresponding USB port from reporting a Device Connection to the controller.

3.2.4.3 HD Audio Configuration

Advanced	Aptio Setup – AMI	
HD Audio Subsystem Configuration Settings		Control Detection of the
HD Audio Audio DSP Audio DSP Compliance Mode	[Enabled] [Enabled] [UAA (HDA Inbox/IntelSST)]	Disabled = HDA will be unconditionally disabled Enabled = HDA will be unconditionally enabled.
		<pre>++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit</pre>
Version 2.22.1293 Copyright (C) 2024 AMI		

This menu contains the following information:

HD Audio

Control Detection of the HD-Audio device. Disabled = HAD will be unconditionally disabled. Enabled = HAD will be unconditionally enabled.

Audio DSP

Enable or Disable Audio DSP.

Audio DSP Compliance Mode

Specifies DSP enabled system compliance:

1. Non-UAA (Intel SST driver support only – CC_040100).

2. UAA (HD Audio Inbox or Intel SST driver support – CC_040380). Note: NHLT (DMIC/BT/I2S configuration) is published for non-UAA only.

3.2.5 PCH-FW Configuration

Advanced	Aptio Setup — AMI	
ME Firmware Version ME Firmware Mode ME Firmware SKU	18.0.5.2107 Normal Mode Corporate SKU	<pre>++: Select Screen 1↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit</pre>
Version :	2.22.1293 Copyright (C) 2024	AMI

This menu contains the following information:

- ME Firmware Version Display the ME Firmware information.
- Me Firmware Mode Display the Me Firmware Mode.
- Me Firmware SKU Display the Me Firmware SKU.

3.2.6 Trusted Computing

Advanced	Aptio Setup – AMI	
TPM 2.0 Device Found Firmware Version: Vendor:	15.23 IFX	Enables or Disables BIOS support for security device. O.S. will not show Security Davice, ICS EEL protocol and
Security Device Support Active PCR banks Available PCR banks	[Enable] SHA256 SHA256,SHA384	INT1A interface will not be available.
		<pre>→+: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit</pre>
Vers	;ion 2.22.1293 Copyright (C)	2024 AMI

This menu contains the following information:

- TPM 2.0 Device Found
 - Display the information of the TPM 2.0 Device: Firmware Version, Vendor.
- Security Device Support

Enable or Disable BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.

3.2.7 ACPI Settings

Advanced	Aptio Setup — AMI	
ACPI Settings		Enables or Disables System
Enable Hibernation	[Enabled]	ability to Hibernate (OS/S4 Sleep State). This option may not be effective with some operating systems. ++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit
V	ersion 2.22.1293 Copyright (C)	2024 AMI

This menu contains the following information:

Enable Hibernation

Enable or Disable System ability to Hibernate (OS/S4 Sleep State). This option may not be effective with some operating systems.

3.2.8 Super IO Configuration

Aptio 9	Setup — AMI
Super IO Configuration	Set Parameters of Serial Port 1
Super IO Chip COM1 COM2 COM3 COM4	
	++: Select Screen
	I↓: Select Item Enter: Select +/-: Change Opt.
	F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit
Version 2.22.1293	Copyright (C) 2024 AMI

This menu contains the following information:

• COM X

Set Parameters of Serial Port x:

The options after entering the interface settings above are as follows. Serial Port: Enable or Disable Serial Port (COM).

Device Settings: Display the Current Device Settings.

Change Settings: If the board supported, this menu shows. Select an optimal setting for Super IO Device.

3.2.9 Hardware Monitor

Advanced	Aptio Setup – AMI	
Pc Health Status ▶ Fan Function		Fan function setting
CPU Temp SYS Temp CPU_FAN1 SYS_FAN1 VCC_CPU VCC_GT +12V +5V +3.3V	: +98 C : +42 C : N/A : N/A : +1.362 V : +0.032 V : +12.295 V : +5.123 V : +3.294 V	<pre>++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit</pre>
V	ersion 2.22.1293 Copyright (C)	2024 AMI

This menu contains the following information:

• Fan Function (If the board supported, this menu shows.) Fan Function setting.

CPU_FAN1/SYS_FAN1 Mode: FAN Mode Select. Full on Mode; Automatic Mode; Manual Mode. Refer to section 2.7 of this manual for setting up.

CPU Temp

Display CPU Temperature.

- SYS Temp Display System Temperature.
- CPU_FAN1 Display CPU_FAN1 Speed.
- SYS_FAN1 Display SYS_FAN1 Speed.
- VCC_CPU

Display CPU Core Voltage Value.

VCC_GT

Display Memory Voltage Value.

- +12V Display +12 Voltage Value.
- +5V Display +5 Voltage Value.
- +3.3V

Display +3.3 Voltage Value.

3.2.10 Display Configuration

Advanced	Aptio Setup – AMI	
LVDS Control LCD Panel Type	[Enabled] [1920x1080 24 Dual]	<pre>Enable or disable onboard LVDS. ++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit</pre>
Versid	n 2.22.1293 Copyright (C) 20	024 AMI

This menu contains the following information:

- LVDS Control Enable or Disable onboard LVDS.
 LCD Panel Type
- LCD Panel Type Select LCD Panel Type.

3.2.11 Power Control

Advanced	Aptio Setup — AMI	
PowerOn after PowerFail	[Power Off]	Specify what state to go to
M.2_KEYB_WWAN1 HSIO Select	[4G/5G Module(PCIE1X + USB3.0)]	<pre>when power is re-applied after a power failure (G3 state). **: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit</pre>
Versi	on 2.22.1293 Copyright (C) 202	24 AMI

This menu contains the following information:

- Power On after Power Fail Specify what state to go to when power is re-applied after a power failure (G3 state).
- M.2_KEYB_WWAN1 HSIO Select Select M.2_KEYB_WWAN1 HSIO Type.

3.2.12 S5 RTC Wake Settings

Advanced	Aptio Setup — AMI	
Wake system from S5 Wake up hour Wake up minute Wake up second	[Daily Time] O O	Enable or disable System wake on alarm event. Select FixedTime(Daily/Weekly/Monthly Time), system will wake on the hr::min::sec specified. ++: Select Screen fl: Select Item Enter: Select
		+/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit
	version 2.22.1255 copyright (C)	/ 2024 NNI

This menu contains the following information:

• Wake system from S5

Enable or Disable System wake on alarm event. Select FixedTime (Daily/Weekly/Monthly Time), system will wake on the hr::min::sec specified.

Refer to section 2.6 of this manual for setting up.

3.2.13 Network Stack Configuration

Advanced	Aptio Setup – AMI	
Network Stack Pxe Boot Lan Select IPv4 PXE Support IPv4 HTTP Support IPv6 PXE Support IPv6 HTTP Support PXE boot wait time Media detect count	[Enabled] [Disabled] [Enabled] [Disabled] [Disabled] 0 1	Enable/Disable UEFI Network Stack
		<pre>++: Select Screen f↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit</pre>
	Version 2.22.1293 Copyright (C)) 2024 AMI

This menu contains the following information:

- Network Stack
 Enable or Disable UEFI Network Stack.
- PXE Boot Lan Select Select the LAN port to Support PXE Boot.
- IPv4 PXE Support
 - Enable or Disable IPv4 PXE boot support. If disabled, IPv4 PXE boot support will not be available.
- IPv4 HTTP Support
 Enable or Disable IPv4 HTTP boot support. If disabled, IPv4 HTTP boot support will not be available.
- IPv6 PXE Support
 Enable or Disable IPv6 PXE boot support. If disabled, IPv6 PXE boot support will not be available.
- IPv6 HTTP Support
 Enable or Disable IPv6 HTTP boot support. If disabled, IPv6 HTTP boot support will not be available.
- PXE boot wait time
 Wait time in seconds to press ESC key to abort the PXE boot. Use either +/- or numeric keys to set the value.
- Media detect count
 Number of times the presence of media will be checked. Use either +/- or numeric keys to set the value.

3.2.14 NVMe Configuration

Aptio Setup – AMI	
Advanced Advanced	
NVMe Configuration	
▶ ZHITAI PCOO5 Active 256GB	
	+/−: Change Opt. F1: General Heln
	F2: Previous Values F3: Optimized Defaults
	F4: Save & Exit Pause: Print Screen
	ESC: Exit
Version 2.22.1293 Copyright (C) 2024	AMI

This menu contains the following information:

NVMe Configuration

NVMe Device Options Settings. (When no device is connected, the Option display 'No NVMe Device Found').

3.2.14.1 NVMe Device Options Settings

Advanced	Aptio Setup – AMI	
Seg:Bus:Dev:Func Model Number	00:01:00:00 ZHITAI PC005 Active 256GB	Select either Short or Extended Self Test. Short option will take couple of
Total Size Vendor ID	256.0 GB 1E49	minutes and extended option will take several minutes to
Device ID	0001	complete.
Namespace: 1	Size: 256.0 GB	
Device Self Test: Self Test Option Self Test Action Run Device Self Test	[Short] [Controller Only Test]	
Nun Device Sein Test	[0]	++: Select Screen
Short Device Selftest Result Extended Device Selftest Result	[Pass] [Not Available]	<pre>14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit</pre>
Version	2.22.1293 Copyright (C) 202	24 AMI

This menu contains the following information:

- Display the NVME device information
- Device Self Test

Self Test Option: Select either Short or Extended Self Test. Short option will take couple of minutes and extended option will take several minutes to complete.

Self Test Action: Select either to test Controller alone or Controller and Name Space. Selecting Controller and Name Space option will take lot longer to complete the test.

Run Device Self Test: Perform device self test for the corresponding Option and Action selected by user. Pressing 'Esc' key will abort the test. Result shown below is the recent result logged in the device.

3.3 Security

Main Advanced Security Boot Sav	Aptio Setup – AMI /e & Exit MEBx	
Password Description		Set Administrator Password
If ONLY the Administrator's password then this only limits access to Setu only asked for when entering Setup. If ONLY the User's password is set, is a power on password and must be a boot or enter Setup. In Setup the Us have Administrator rights. The password length must be in the following range:	d is set, up and is then this entered to ser will	
Maximum length	20	↔+: Select Screen
		†↓: Select Item
Administrator Password		Enter: Select
user Password		+/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit
▶ Secure Boot		Pause: Print Screen ESC: Exit
Version 2	2.22.1293 Copyright (C) 2024	AMI

This menu contains the following information:

- Administrator Password Set Setup Administrator Password.
- User Password
 Set User Password.
- Secure Boot Secure Boot configuration.

3.3.1 Secure Boot

Security	Aptio Setup – AMI		
System Mode	Setup	Secure Boot feature is Active	
Secure Boot	[Disabled] Not Active	Platform Key(PK) is enrolled and the System is in User mode. The mode change requires	
Secure Boot Mode ▶ Restore Factory Keys ▶ Reset To Setup Mode	[Standard]	platform reset	
▶ Expert Key Management			
		++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit	
Version 2.22.1293 Copyright (C) 2024 AMI B4			

This menu contains the following information:

- System Mode Display the System Mode.
- Secure Boot

Secure Boot feature is Active if Secure Boot is Enabled, Platform Key (PK) is enrolled and the System is in User mode. The mode change requires platform reset.

Secure Boot Mode

Secure Boor mode options: Standard or Custom.

In Custom mode, Secure Boot Policy variables can be configured by a physically present user without full authentication.

Restore Factory Keys

Force System to User Mode. Install factory default Secure Boot key databases.

Reset To Setup Mode

Delete all Secure Boot key databases from NVRAM.

• Expert Key Management Enables expert users to modify Secure Boot Policy variables without full authentication.

3.4 Boot

Main Advanced Security <mark>Boot</mark> Sa	Aptio Setup – AMI ve & Exit MEBx	
Boot Configuration Setup Prompt Timeout Bootup NumLock State FullScreen Logo Built in EFI Shell Enable	<mark>3</mark> [Off] [Disabled] [Disabled]	Number of seconds to wait for setup activation key. 65535(OxFFFF) means indefinite waiting.
FIXED BOOT ORDER Priorities Boot Option #1 Boot Option #2 Boot Option #3 Boot Option #4	[NVME] [Hard Disk] [USB Device] [Network]	
Boot Uption #5	[UEFI AP]	<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit</pre>
Version 3	2.22.1293 Copyright (C) 2024	AMI

This menu contains the following information:

- Setup Prompt Timeout
 Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
- Bootup Num Lock State Select the keyboard Num Lock state.
- Full Screen Logo
 Enable or Disable Full Screen Logo option.
- Built in EFI Shell Enable
 Enable or Disable Built in EFI Shell.
- FIXED BOOT ORDER Priorities Display Boot order, and allow to set NVME/Hard Drive/USB/XXX boot order in this group.

3.5 Save & Exit

Aptio Setup – AMI Main Advanced Security Boot Save & Exit MEBx		
Save Options Save Changes and Exit Discard Changes and Exit Save Changes and Reset Discard Changes and Reset Save Changes Discard Changes Default Options Restore Defaults	Exit system setup after saving the changes.	
Save as User Defaults Restore User Defaults	→+: Select Screen	
Boot Override Launch EFI Shell from filesystem device	<pre>f↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults</pre>	
	F4: Save & Exit Pause: Print Screen ESC: Exit	
Version 2.22.1293 Copyright (C) 2024 AMI		

This menu contains the following information: Save Options:

- Save Changes and Exit Exit the system after saving the changes.
- Discard Changes and Exit Exit system setup without saving any changes.
- Save Changes and Reset
 Reset the system after saving the changes.
- Discard Changes and Reset Reset system setup without saving any changes.
- Save Changes
 Save Changes done so far to any of far to any of the setup options.
- Discard Changes: Discard Changes done so far to any of the setup options.

Default Options

- Restore Defaults
 - Restore or Load Default values for all the setup options.
- Save as User Defaults
 Save the changes done so far as User Defaults.
- Restore User Defaults
 Restore the User Defaults to all the setup options.

Boot Override

• Launch EFI Shell from filesystem device Attempts to launch EFI Shell application (Shell.efi) from one of the available filesystem devices.

3.6 MEBx

Aptio Setup – AMI Main Advanced Security Boot Save & Exit <mark>MEBx</mark>	
Intel(R) ME Password	MEB× Login
	++: Select Screen 1↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values
Vencion 2, 22, 1292, Comuniatity (P), 2024	F3: Optimized Defaults F4: Save & Exit Pause: Print Screen ESC: Exit

This menu contains the following information:

 Intel(R) ME Password MEBx Login.



Premio Inc. All Rights Reserved www.premioinc.com