

OPM-CDV

Fanless Open Pluggable Module Compliant
with Intel® Open Pluggable Specification

Quick Reference Guide

1st Ed –16 July 2012

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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 OPM-CDV Fanless Open Pluggable Module Compliant with Intel® Open Pluggable Specification
- 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
 - Chipset drivers
- Other major components include the followings:
 - 2 x Screw kit for HDD/SDD fixing



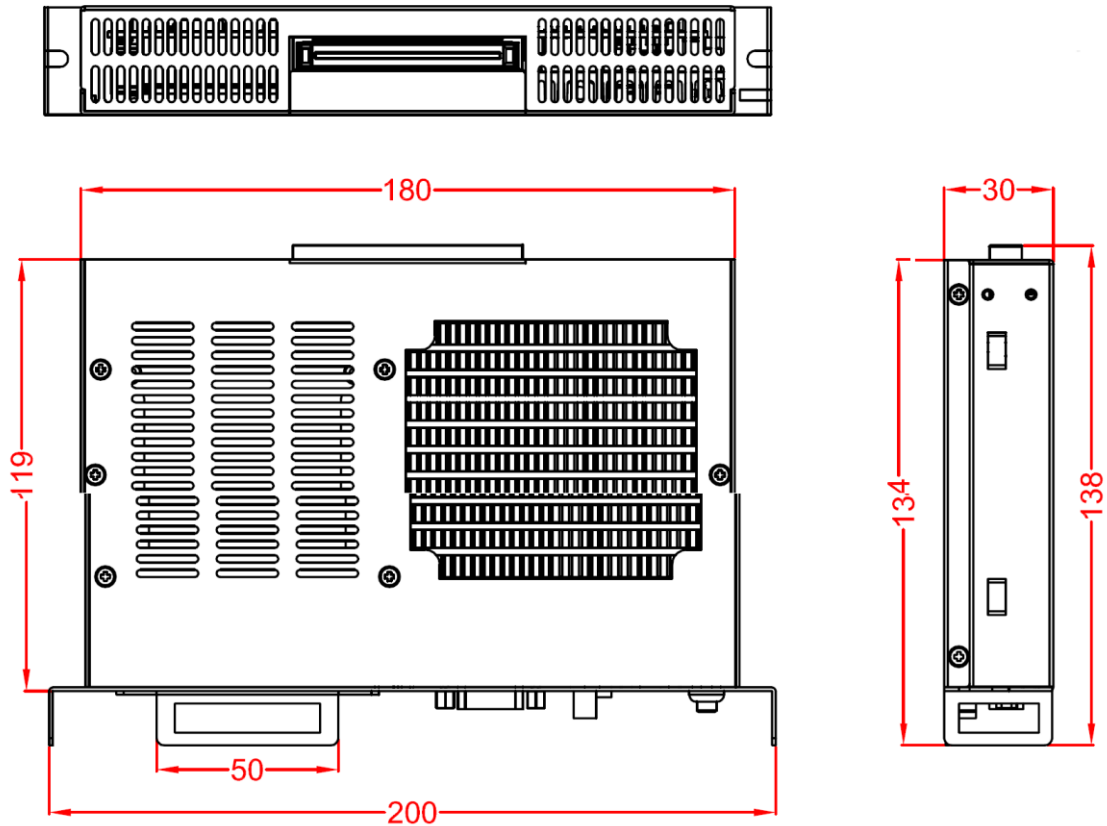
If any of the above items is damaged or missing, contact your retailer.

1.3 System Specifications

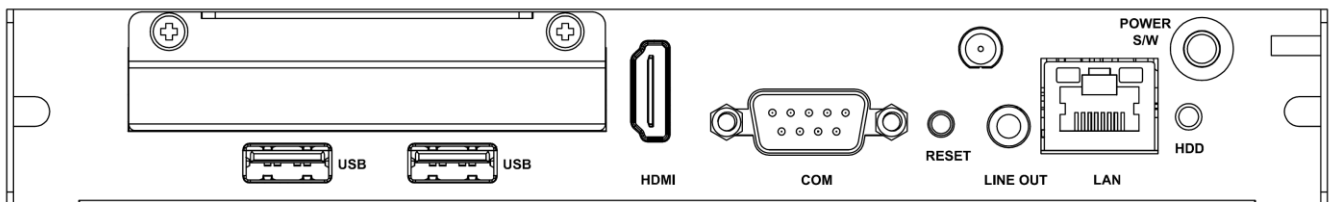
Component	
Mother Board	EQM-CDV with EAP-OPI board
CPU	Intel Cedarview-M N2600/N2800
Memory	Onboard 1GB DDR3 800/1066
Power Supply	12~19V (from monitor)
System Fan	Fanless
Wireless LAN	Optional Wireless 802.11 b/g/n (via mPCIe or USB)
Operating System	Windows/ Linux
Storage	
Hard Disk Drive	Support 2.5" SATA HDD
Solid State Drive	Support 2.5" SATA SSD
External I/O	
Serial Port	1 x COM (RS232)
USB Port	2 x USB2.0
Audio Port	1 x Line out (Line in/ Mic-in as wafers)
LAN Port	1 x Gigabit LAN
Wireless LAN Antenna	1 x external antenna hole
Switch	1 x power switch
Indicator Light	1 x HDD, 1 x Power
Expansion Slots	1 x mini PCIe supports mSATA
Others	1 x HDMI
Mechanical	
Power Type	Single power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Dimension	200 x 119 x 30mm
Weight	TBD
Color	Front I/O side – black
Fanless	(Reserved System Fan)
Reliability	
EMI Test	Class B (w/o HDMI connector) Class A (w/ HDMI connector)
Safety	CE FCC
Operating Temperature	0°C ~ 40°C
Operating Humidity	0%~90% relative humidity, non-condensing
Storage Temperature	-20°C ~ 75°C

1.4 System Overview

1.4.1 Front & Top View



1.4.2 Rear View



Connectors

Label	Function	Note
COM	Serial port connector	DB-9 male connector
HDMI	HDMI connector	
RESET	Reset button	
HDD	HDD Indicator	
LAN	RJ-45 Ethernet	
LINE OUT	Line-out audio jack	
Power S/W	System power switch	
USB1~2	USB connector 1~2	

2. Hardware Configuration

Jumper and Connector Setting, Driver and BIOS Installing

For advanced information, please refer to:

- 1- OPM-CDV Quick Reference Guide or User's Manual
- 2- EAP-OPI included in this manual.



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

<http://www.avalue.com.tw>

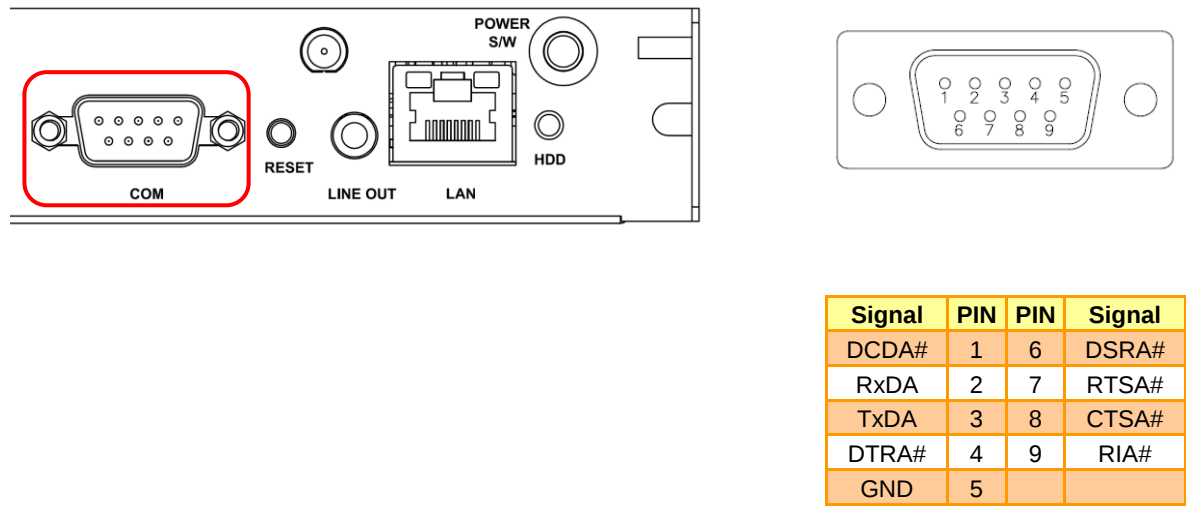
2.1 OPM-CDV connector list

Connectors

Label	Function	Note
COM	Serial port connector	DB-9 male connector
HDMI	HDMI connector	
RESET	Reset button	
HDD	HDD Indicator	
LAN	RJ-45 Ethernet	
LINE OUT	Line-out audio jack	
Power S/W	System power switch	
USB1~2	USB connector 1~2	

2.2 OPM-CDV connector mapping

2.2.1 External Serial Port connector (COM)



2.3 EAP-OPI Jumper & Connector list

Jumpers

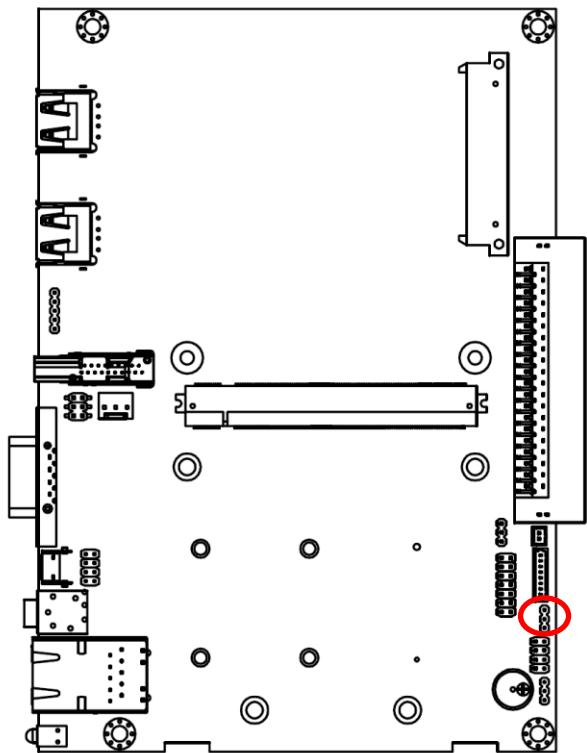
Label	Function	Note
JFPT1	Miscellaneous setting connector	8 x 1 header, pitch 1.25mm
JCMOS1	Clear CMOS	3 x 1 header, pitch 2.00mm
JBIOS3	Module/Carrier BIOS selector	3 x 1 header, pitch 2.00mm
JRI1	COM1 Dsub_ 9 signal selector	3 x 2 header, pitch 2.00mm
JAT_ATX1	AT/ATX power	3 x 1 header, pitch 2.00mm

Connectors

Label	Function	Note
JBT1	Battery connector	2 x 1 wafer, pitch 1.25mm
FAN1	System Fan connector	3 x 1 wafer, pitch 2.54mm
JAUD1	Audio connector	4 x 2 header, pitch 2.00mm
JAUD2	Audio connector	
SW1	Reset button	
JCOM1	Serial Port 1 connector	D Sub 9 pin male
D13	HDD LED connector	
JHDMI1	HDMI connector	
JOPS1	OPS connector	
JLAN1	LAN port connector	
JLPC1	LPC connector	7 x 2 header, pitch 2.00mm
JMPCIE1	MPCIE connector	
JQSEVEN1	Qseven connector	
JSPI1	SPI connector	4 x 2 header, pitch 2.00mm
JSATA1	SATA connector 1	
JUSB2	USB connector	
JUSB3	USB connector	

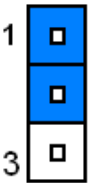
2.4 Setting Jumpers & Connectors

2.4.1 AT/ATX power (JAT_ATX1)

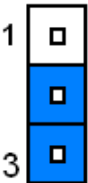


*Default

ATX*

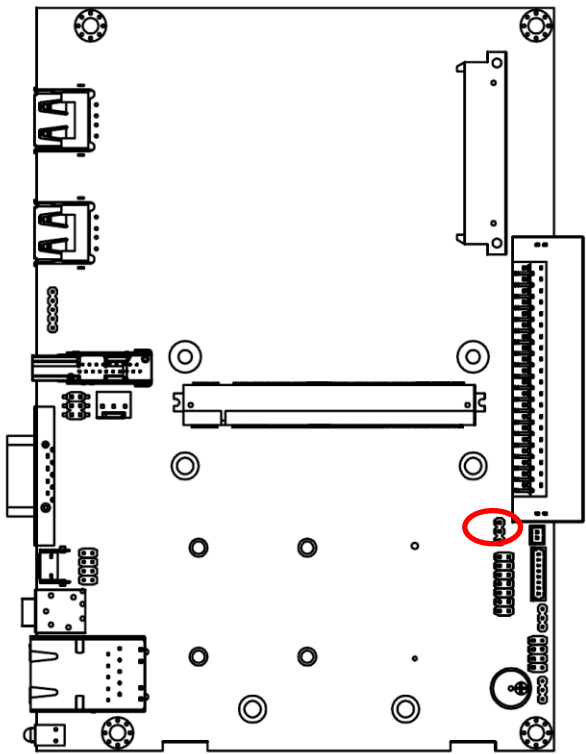


AT



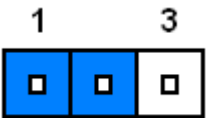
Signal	PIN
NC-	1
AT	2
PWRBTN#_IN	3

2.4.2 Clear COMS (JCMOS1)

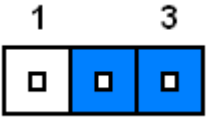


*Default

Protect*

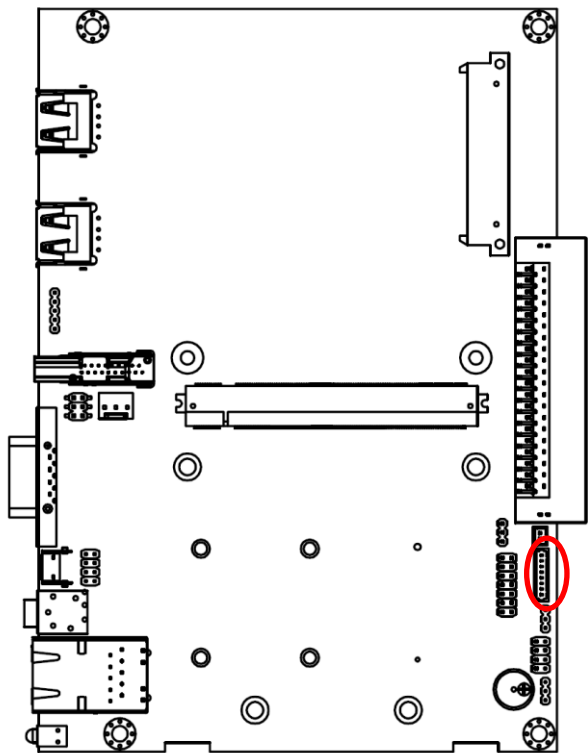


Clear CMOS



Signal	PIN
+VRTC_IN	1
+VRTC_C	2
GND	3

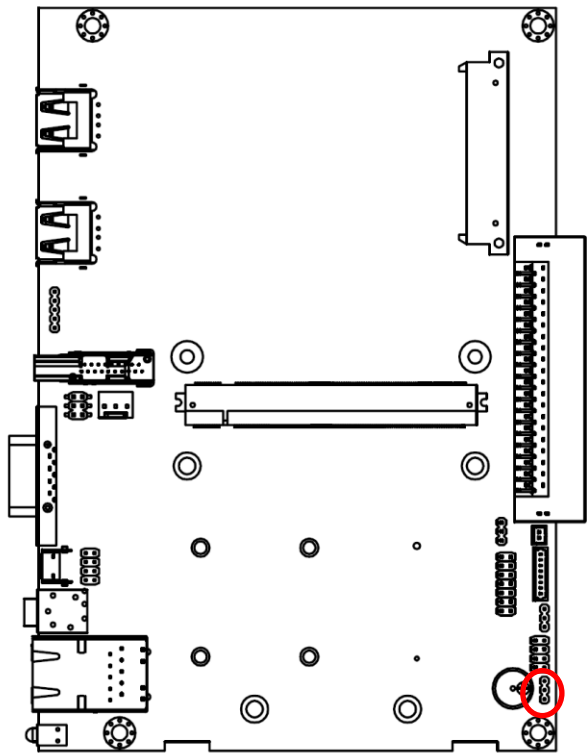
2.4.3 Miscellaneous setting connector (JFPT1)



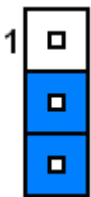
Signal	PIN
GND	8
PWRBTN#_IN	7
GND	6
SYSRST#	5
GND	4
PWR_LED+	3
QC_SATA_LED#	2
HDD_LED+	1

*Default

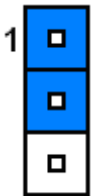
2.4.4 Module/Carrier BIOS selector (JBIOS1)



Q7 Module BIOS*



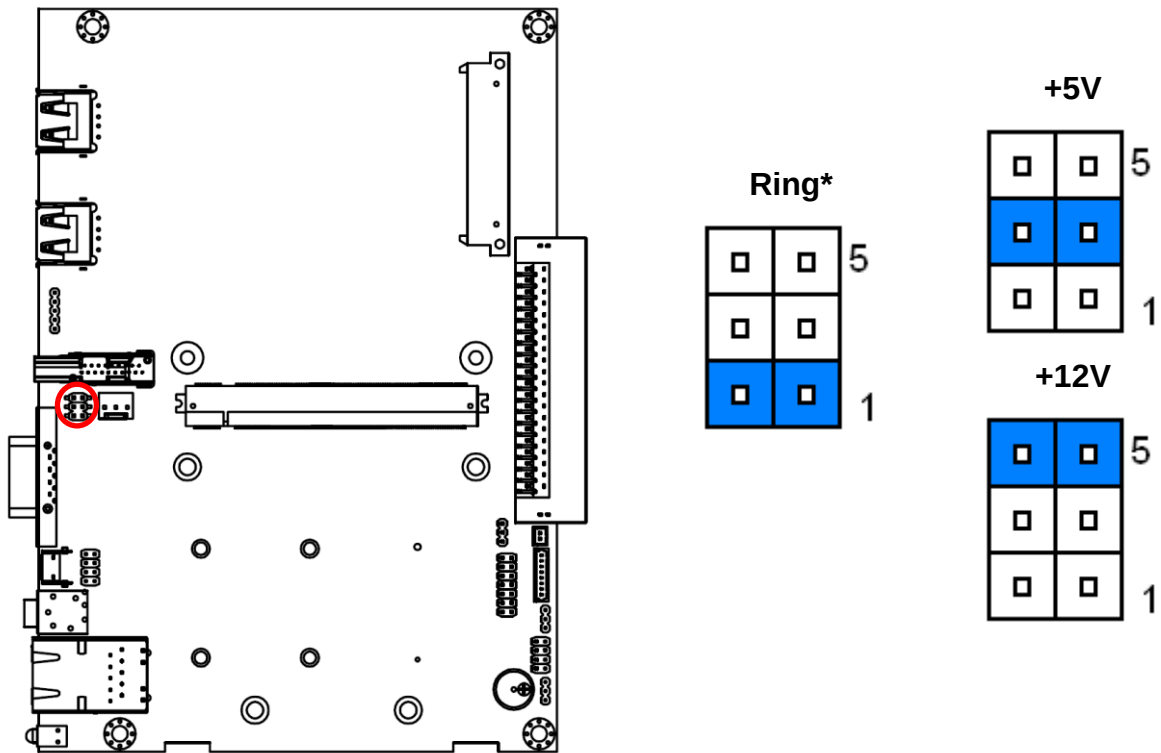
Carrier BIOS



Signal	PIN
QC_BIOS_DISABLE#	1
GND	2
NC	3

*Default

2.4.5 COM1 Dsub_ 9 signal selector (JRI1)

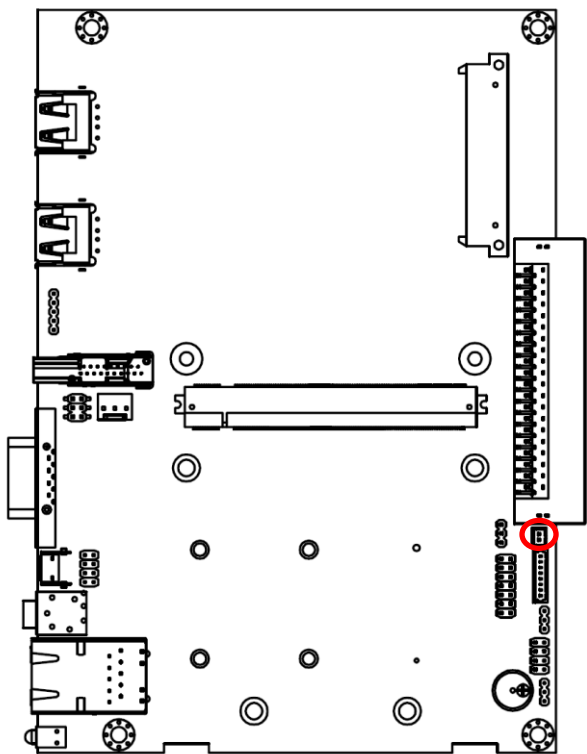


* Default

Signal	PIN	PIN	Signal
PS2	6	5	+12V
PS2	4	3	+5V
NR1A#	2	1	JNR1A#

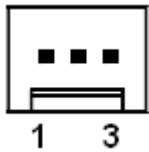
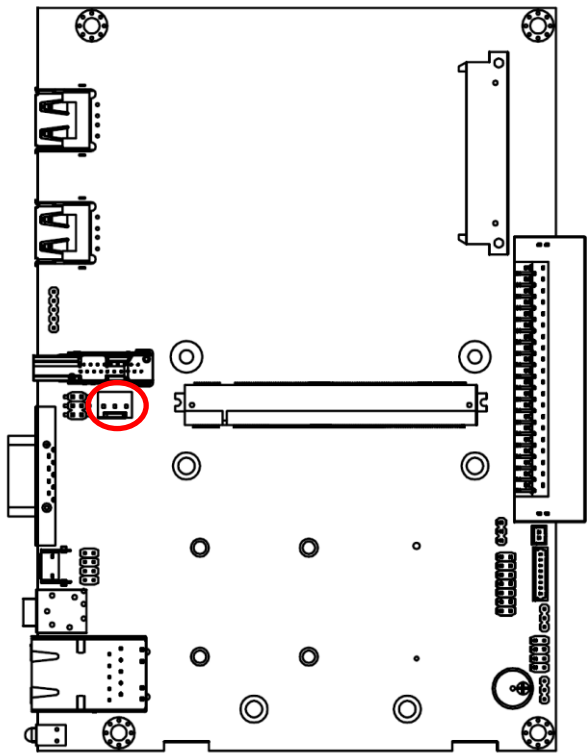
Note: When switched to “Ring”, the signal only works in RS-232 mode.

2.4.6 Battery connector (JBT1)



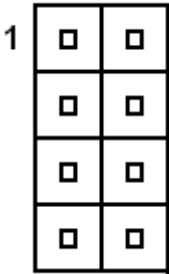
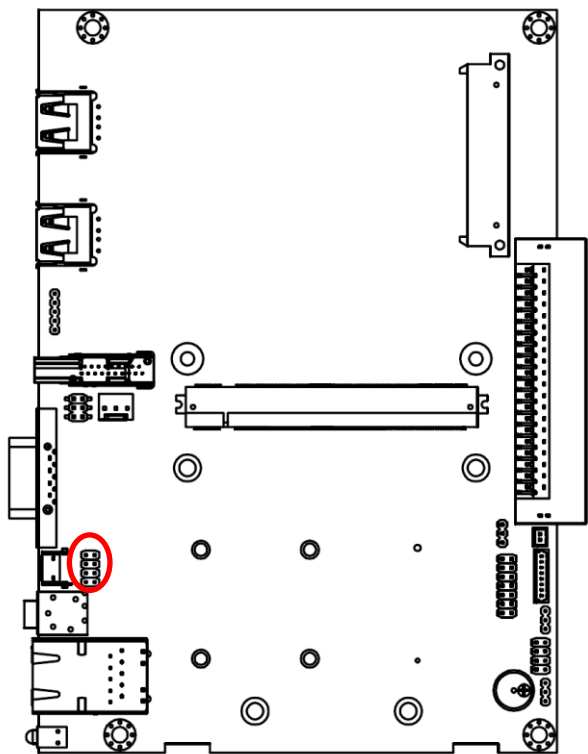
Signal	PIN
GND	2
+3.3V	1

2.4.7 System Fan connector (FAN1)



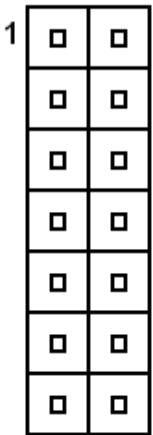
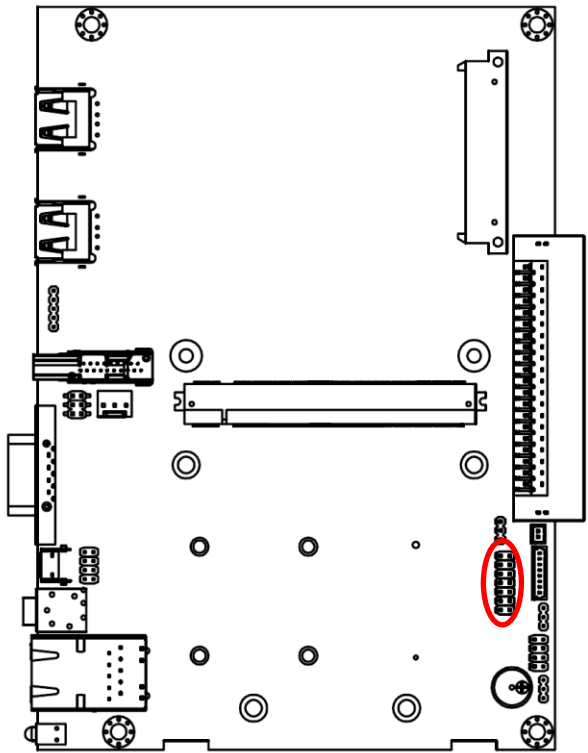
Signal	PIN
GND	1
+12V	2
SYS_FANIN	3

2.4.8 Audio connector (JAUD1)



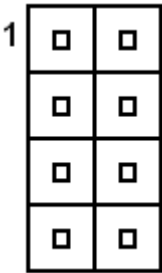
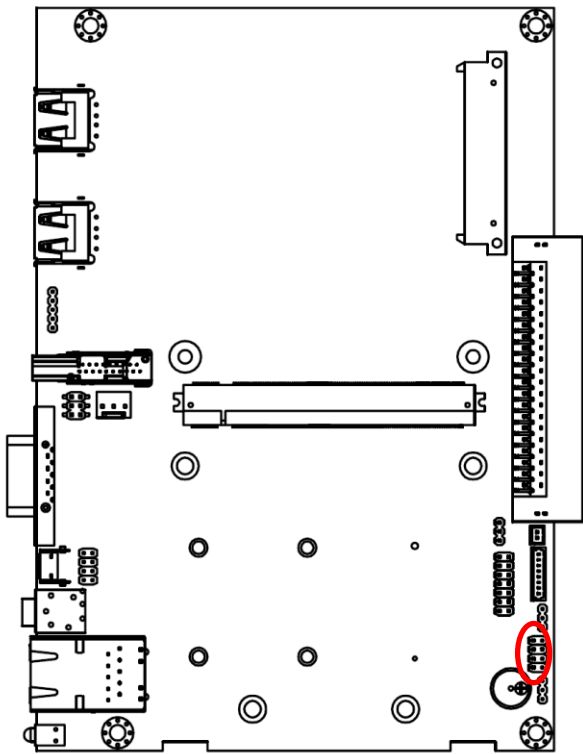
Signal	PIN	PIN	Signal
MIC_RIN	1	2	MIC_LIN
GND	3	4	MIC1_JD
LINE1_RIN	5	6	LINE1_LIN
LINE1_JD	7	8	GND

2.4.9 LPC Connector (JLPC1)



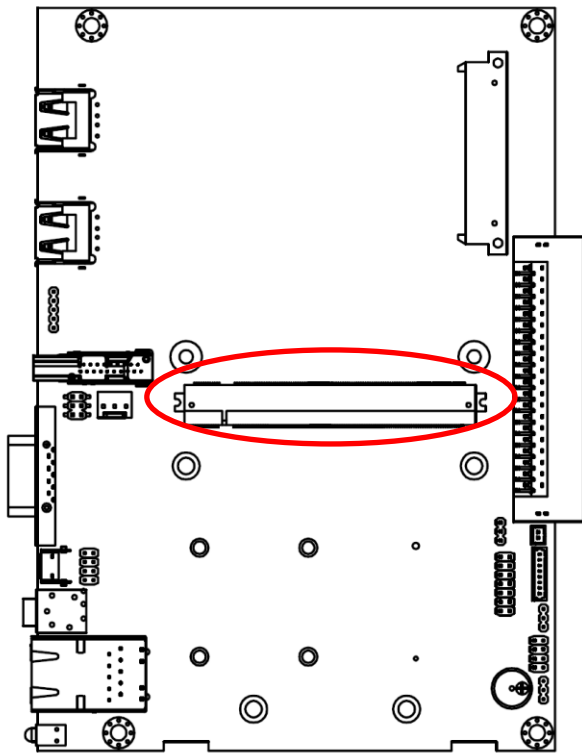
Signal	PIN	PIN	Signal
LPC_AD0	1	2	+3.3V
LPC_AD1	3	4	PCIE_RST#
LPC_AD2	5	6	LPC_LFRAME#
LPC_AD3	7	8	LPC_CLK
SERIRQ	9	10	GND
+5V	11	12	GND
+5VSB	13	14	GND

2.4.10 SPI connector (JSPI1)



Signal	PIN	PIN	Signal
+3.3V	1	2	GND
CS#	3	4	CLK_C
SO_C	5	6	SI_C
HOLD#_C	7	8	NC

2.4.11 Qseven connector (JQSEVEN1)



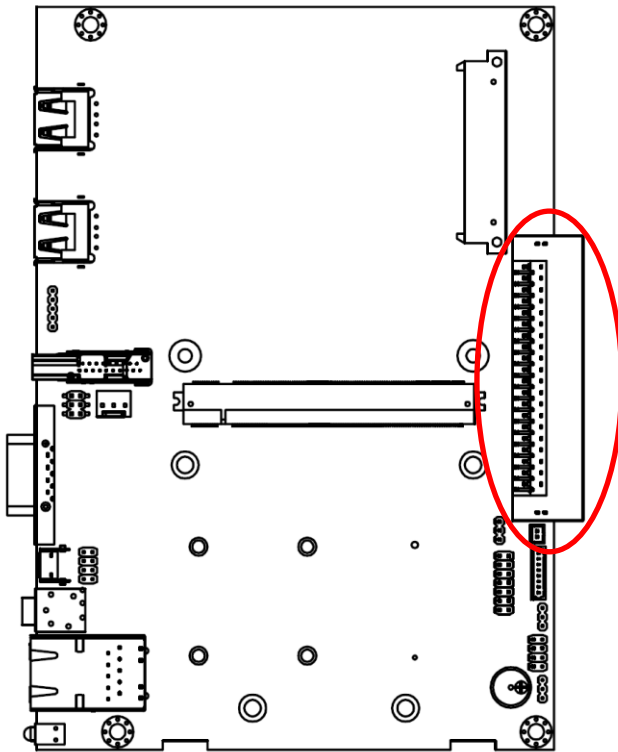
Signal	PIN	PIN	Signal
GND1	1	2	GND2
GBE_MDI3-	3	4	GBE_MDI2-
GBE_MDI3+	5	6	GBE_MDI2+
GBE_LINK100#	7	8	GBE_LINK1000#
GBE_MDI1-	9	10	GBE_MDI0-
GBE_MDI1+	11	12	GBE_MDI0+
NC	13	14	GBE_ACT#
GBE_CTREF	15	16	SUS_S5#
WAKE#	17	18	SUS_S3#
NC	19	20	PWRBTN#
SLP_BTN#	21	22	LID_BTN#
GND3	23	24	GND4
GND5	25	26	PWGIN
BATLOW#	27	28	RSTBTN#
SATA0_TX+	29	30	SATA1_TX+
SATA0_TX-	31	32	SATA1_TX-
SATA_ACT#	33	34	GND6
SATA0_RX+	35	36	SATA1_RX+
SATA0_RX-	37	38	SATA1_RX-

Signal	PIN	PIN	Signal
GND7	39	40	GND8
BIOS_DISABLE#	41	42	NC
NC	43	44	NC
NC	45	46	NC
NC	47	48	NC
NC	49	50	NC
NC	51	52	NC
NC	53	54	NC
NC	55	56	NC
GND9	57	58	GND10
HDA_SYNC	59	60	SMB_CLK
HDA_RST#	61	62	SMB_DAT
HDA_BCLK	63	64	SMB_ALERT#
HDA_SDI	65	66	I2C_CLK
HDA_SDO	67	68	I2C_DAT
THRM#	69	70	WDTRIG#
THRMTRIP#	71	72	WDOUT
GND11	73	74	GND12
USB_P7-	75	76	NC
USB_P7+	77	78	NC
USB_6_7_OC#	79	80	USB_4_5_OC#
USB_P5-	81	82	USB_P4-
USB_P5+	83	84	USB_P4+
USB_2_3_OC#	85	86	USB_0_1_OC#
NC	87	88	USB_P2-
NC	89	90	USB_P2+
NC	91	92	RSVD92
USB_P1-	93	94	USB_P0-
USB_P1+	95	96	USB_P0+
GND13	97	98	GND14
NC	99	100	NC
NC	101	102	NC
NC	103	104	NC

Signal	PIN	PIN	Signal
NC	105	106	NC
NC	107	108	NC
NC	109	110	NC
NC	111	112	NC
NC	113	114	NC
NC	115	116	NC
GND15	117	118	GND16
NC	119	120	NC
NC	121	122	NC
NC	123	124	NC
NC	125	126	NC
NC	127	128	NC
NC	129	130	NC
HDMI_CLK+	131	132	NC
HDMI_CLK-	133	134	NC
GND17	135	136	GND18
HDMI_TX1+	137	138	NC
HDMI_TX1-	139	140	NC
GND19	141	142	GND20
HDMI_TX0+	143	144	NC
HDMI_TX0-	145	146	NC
GND21	147	148	GND22
HDMI_TX2+	149	150	HDMI_DDC_SDA
HDMI_TX2-	151	152	HDMI_DDC_CLK
HDMI_HPD#	153	154	DP_HPD#
PCIE_CLK_REF+	155	156	PCIE_WAKE#
PCIE_CLK_REF-	157	158	PCIE_RST#
GND23	159	160	GND24
NC	161	162	NC
NC	163	164	NC
GND25	165	166	GND26
NC	167	168	NC
NC	169	170	NC

Signal	PIN	PIN	Signal
NC	171	172	NC
NC	173	174	NC
NC	175	176	NC
EXCD0_CPPE#	177	178	EXCD1_CPPE#
PCIE0_TX+	179	180	PCIE0_RX+
PCIE0_TX-	181	182	PCIE0_RX-
GND27	183	184	GND28
LPC_AD0	185	186	LPC_AD1
LPC_AD2	187	188	LPC_AD3
LPC_CLK	189	190	LPC_FRAME#
SERIRQ	191	192	LPC_LDRQ#
VCC_RTC	193	194	SPKR
NC	195	196	NC
GND29	197	198	GND30
NC	199	200	NC
NC	201	202	NC
NC	203	204	NC
VCC_5V_SB1	205	206	VCC_5V_SB2
NC	207	208	NC
NC	209	210	NC
VCC1	211	212	VCC2
VCC3	213	214	VCC4
VCC5	215	216	VCC6
VCC7	217	218	VCC8
VCC9	219	220	VCC10
VCC11	221	222	VCC12
VCC13	223	224	VCC14
VCC15	225	226	VCC16
VCC17	227	228	VCC18
VCC19	229	230	VCC20

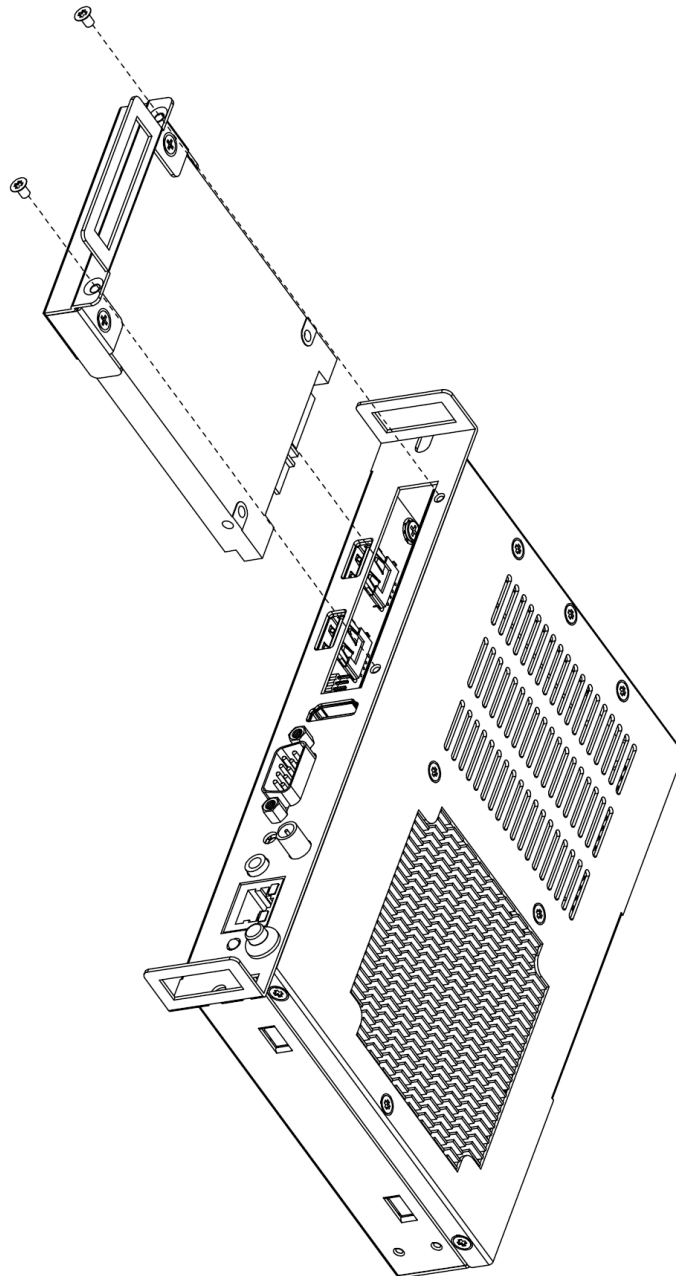
2.4.12 OPS connector (JOPS1)



Signal	PIN	PIN	Signal
TMDS0-	20	60	USB_PN2
GND5	19	59	GND20
TMDS_CLK+	18	58	NC
TMDS_CLK-	17	57	NC
GND6	16	56	GND21
NC	15	55	NC
NC	14	54	NC
NC	13	53	GND22
GND7	12	52	UART_TXD
NC	11	51	UART_RXD
NC	10	50	SYS_FAN
GND8	9	49	NC
NC	8	48	NC
NC	7	47	NC
GND9	6	46	NC
NC	5	45	NC
NC	4	44	NC
GND10	3	43	NC
NC	2	42	NC
NC	1	41	NC

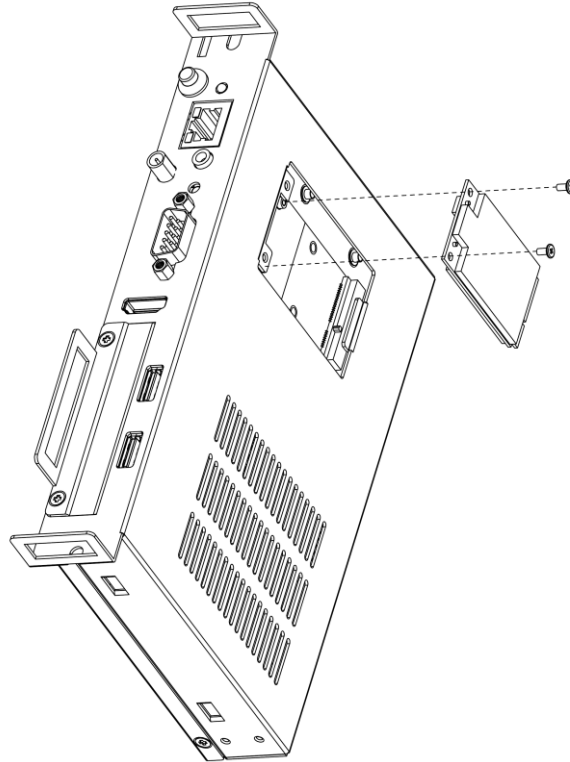
Signal	PIN	PIN	Signal
Power8	40	80	GND11
Power7	39	79	GND12
Power6	38	78	GND13
Power5	37	77	GND14
Power4	36	76	GND15
Power3	35	75	GND16
Power2	34	74	PWR_STATUS
Power1	33	73	PS_ON#
GND1	32	72	PB_DET
HDMI_HPD	31	71	CEC
HDMI_SCLK	30	70	AZ_LINEOUT_R
HDMI_SDATA	29	69	AZ_LINEOUT_L
GND2	28	68	GND17
TMDS2+	27	67	USB_PP0
TMDS2-	26	66	USB_PN0
GND3	25	65	GND18
TMDS1+	24	64	USB_PP1
TMDS1-	23	63	USB_PN1
GND4	22	62	GND19
TMDS0+	21	61	USB_PP2

2.5 Installing Hard Disk (OPM-CDV)

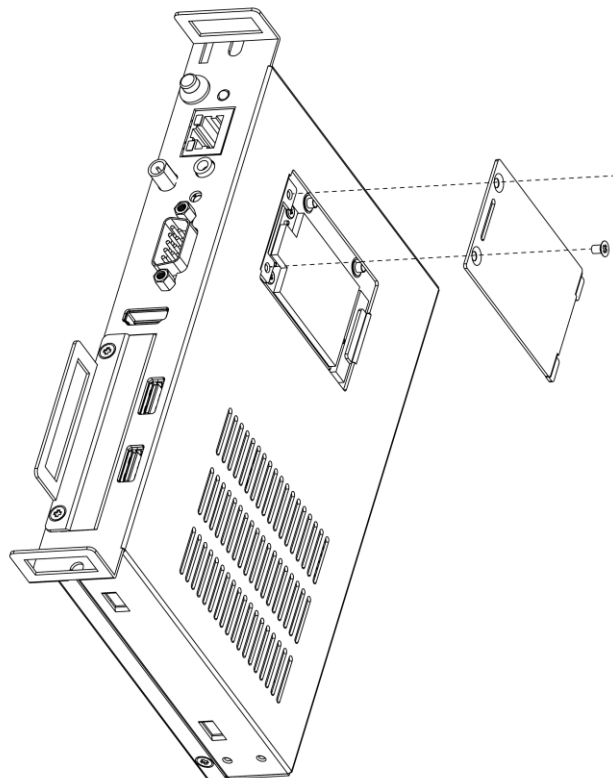


- Step 1.** Slide HDD into its bracket until properly seated.
- Step 2.** Secure HDD by means of 2 screws.
- Step 3.** Slide in HDD until it's fully plugged into onboard HDD connector.
- Step 4.** Fasten HDD bracket by means of 2 screws.

2.6 Installing PCIE device (OPM-CDV)



Step1. Please install mini PCIe device, and fasten with 2 screws



Step2. Service door can now be closed by means of two screws

