EmETXe-i88U4

COM Express® Compact Type 6 CPU Module

Quick Installation Guide

Version 1.0

Form Factor	CPU	Memory
COM Express® Compact Type 6 CPU Module	***Intel® Xeon D1539/ D1508D1527 Proceessor***	***DDR4 ECC SO-DIMM Sockets***

LAN	I/O
Intel® i210IT PCIe Controller	***USB 2.0/ USB 3.0/ SATA/ PCIe x1/ I2C/ DIO***

♦ Technical Support

If you have any technical difficulties, please consult the user's manual first on our website.

https://www.arbor-technology.com

Please do not hesitate to call or e-mail our customer service when you still can not find out the answer.

https://www.arbor-technology.com

E-mail: info@arbor.com.tw

FCC Class B

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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COM Express supports seven pin-out Type applying to Basic and Extended form factors:
Module Type 1 and 10 support single connector with two rows of pins (220 pins)
Module Type 2, 3, 4, 5 and 6 support two connectors with four rows of pins (440 pins) Connector placement and most mounting holes have transparency between Form Factors.
The differences among the Module Type 6 and EmETXe-i88U4 are summarized in table below:

Module Type	Standard Type 6	EmETXe-i88U4
Connectors	2	2
Connector Rows	A, B, C, D	A, B, C, D
PCIe Lanes (Max)	24	24
LAN (Max)	1	1
Serial Ports (Max)	2	4
Digital Display I/F (Max)	3	0
USB 3.0 Ports (Max)	4	4

Packing List

Before you begin installing your single board, please make sure that the following materials have been shipped:

1 x EmETXe-i88U4 COM Express CPU Module

1 x Quick Installation Guide

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

Specifications

System	
CPU	Soldered onboard Intel® Xeon D-1539 1.6GHz/D-1508 2.2GHz/D-1527 2.2GHzprocessor
Memory	2 x DDR4 ECC SO-DIMM sockets
BIOS	AMI UEFI BIOS
Watchdog Timer	1~255 levels reset
I/O	
USB 2.0	8 x USB 2.0 ports
USB 3.0	4 x USB 3.0 ports
Expansion Bus	1 x PCIex16 lane, 8 x PCIex1 lanes, I2C Interface
Digital I/O	8-bit Digital Input/Output
Storage	4 x Serial ATA ports with 600MB/s HDD transfer rate
Ethernet Chipset	1 x Intel® i210IT PCIe controller
TPM Function	Supports TPM (OEM request)
Mechanical & Environmental	
Power Requirement	+12V, 5VSB
Power Consumption	2.38A@12V (D1539 typical)
Operating Temp.	0 ~ 60°C (52 ~ 140°F)
Operating Humidity	10 ~ 95% @ 60ºC (non-condensing)
Dimension (L x W)	95 x 95 mm (3.7” x 3.7”)

Ordering Information

EmETXe-i88U4-D1539	Intel® Xeon D1539 COM Express® Compact Type 6 CPU module
EmETXe-i88U4-D1508	Intel® Xeon D1508 COM Express® Compact Type 6 CPU module
EmETXe-i88U4-D1527	Intel® Xeon D1527 COM Express® Compact Type 6 CPU module

Optional Accessories

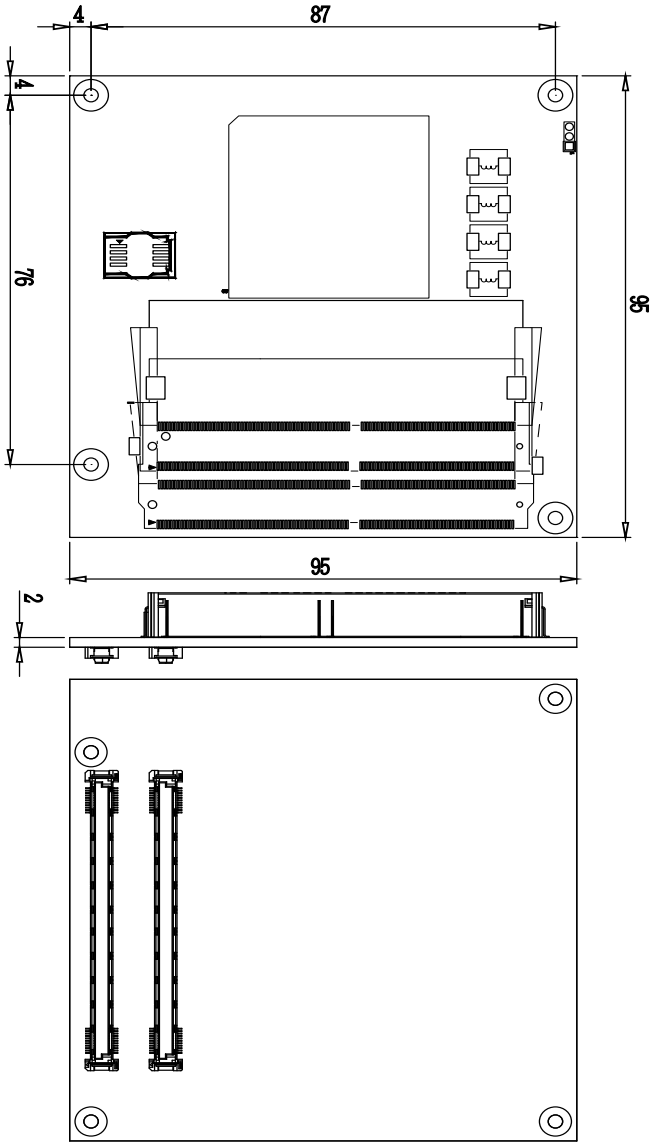
HS-88U4-C1	Heat sink with FAN 95x95x36.5mm
PBE-1705-F1	COM Express® Type 6 evaluation carrier board with SIO F71869ED module in ATX form factor
CBK-03-1705-00	Cable kit • 1 x SATA cable • 2 x COM Flat cables

Driver(7.0A) Installation

To install the drivers,please contact your Arbor Sales Representative to get the permission to visit our website at **www.arbor.technology.com** and download the driver pack from the product page.

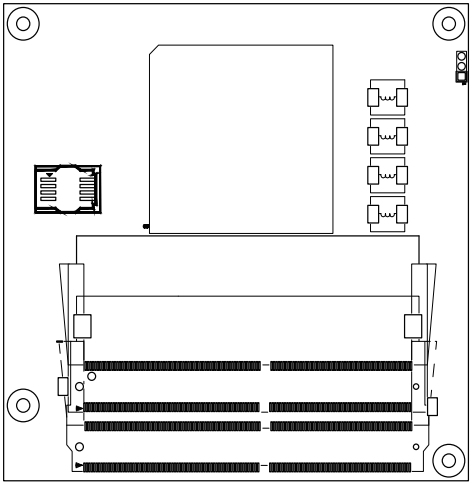
Driver	Path
SERVER	\EmETXe-i88U4\SERVER INF
RST	\EmETXe-i88U4\RST\GUI
Ethernet	\EmETXe-i88U4\Ethernet

Board Dimensions

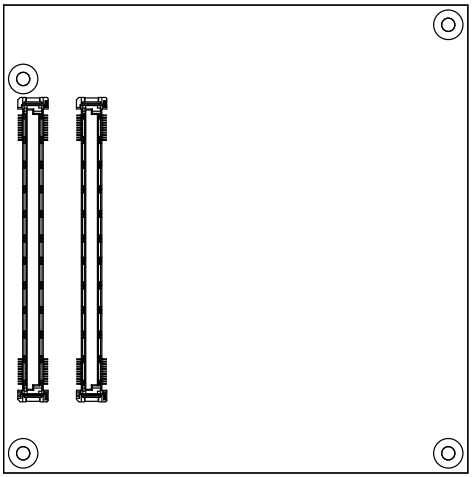


Connectors Quick Reference

Top Side



Bottom Side



COM Express AB Connector (bottom side)

B1	GND	GND	A1
B2	LAN_LED_LNK#_ACT	LAN1_MDI3N	A2
B3	LPC_FRAME#	LAN1_MDI3P	A3
B4	LPC_AD0	LAN_LED_100#	A4
B5	LPC_AD1	LAN_LED_1000#	A5
B6	LPC_AD2	LAN1_MDI2N	A6
B7	LPC_AD3	LAN1_MDI2P	A7
B8	+V3.3S	LAN_LED_LNK#	A8
B9	+V3.3S	LAN1_MDI1N	A9
B10	CLK_LPC_EXPRESS	LAN1_MDI1P	A10
B11	GND	GND	A11
B12	CB_PWRBTN#	LAN1_MDI0N	A12
B13	CB_SMB_CLK	LAN1_MDI0P	A13
B14	CB_SMB_DATA	N/C	A14
B15	CB_SMB_ALERT#	SLP_S3#	A15
B16	SATA_TXP1_C	SATA_TXP0_C	A16
B17	SATA_TXN1_C	SATA_TXN0_C	A17
B18	SUS_STAT#	SLP_S4#	A18
B19	SATA_RXP1_C	SATA_RXP0_C	A19
B20	SATA_RXN1_C	SATA_RXN0_C	A20
B21	GND	GND	A21
B22	SATA_TXP3_C	SATA_TXP2_C	A22
B23	SATA_TXN3_C	SATA_TXN2_C	A23
B24	CB_PWROK	SLP_S5#	A24
B25	SATA_RXP3_C	SATA_RXP2_C	A25
B26	SATA_RXN3_C	SATA_RXN2_C	A26
B27	WDT	BATLOW#	A27
B28	N/C	SATALED#	A28
B29	N/C	N/C	A29
B30	N/C	N/C	A30
B31	GND	GND	A31
B32	SPKR	N/C	A32
B33	I2C_CLK	N/C	A33
B34	I2C_DAT	BIOS_DIS0#	A34
B35	THRM#	THRMTRIP#	A35
B36	USBDN5_DN	USBDN4_DN	A36
B37	USBDN5_DP	USBDN4_DP	A37
B38	USB_OC2_N	USB_OC3_N	A38
B39	USBDN3_DN	USBDN2_DN	A39
B40	USBDN3_DP	USBDN2_DP	A40
B41	GND	GND	A41
B42	USBDN1_DN	USB_2N	A42
B43	USBDN1_DP	USB_2P	A43
B44	USB_OC0_N	USB_OC1_N	A44
B45	USB_1N	USB_0N	A45
B46	USB_1P	USB_0P	A46
B47	PLTRST#_BUFF	VCC_RTC	A47
B48	EXCD1_CCPE#	PLTRST#_BUFF	A48
B49	CB_SYSRST#	EXCD0_CPPE#	A49
B50	CB_RESET#	SERIRQ	A50
B51	GND	GND	A51
B52	PCIE_RXP6	PCIE_TXP6	A52
B53	PCIE_RXN6	PCIE_TXN6	A53
B54	DIO_5	DIO_0	A54
B55	PCIE_RXP5	PCIE_TXP5	A55

B56	PCIE_RXN5	PCIE_TXN5	A56
B57	DIO_6	GND	A57
B58	PCIE_RXP4	PCIE_TXP4	A58
B59	PCIE_RXN4	PCIE_TXN4	A59
B60	GND	GND	A60
B61	PCIE_RXP3	PCIE_TXP3	A61
B62	PCIE_RXN3	PCIE_TXN3	A62
B63	DIO_7	DIO_1	A63
B64	PCIE_RXP2	PCIE_TXP2	A64
B65	PCIE_RXN2	PCIE_TXN2	A65
B66	PCH_WAKE#	GND	A66
B67	EC_WAKE_IN#	DIO_2	A67
B68	PCIE_RXP1	PCIE_TXP1	A68
B69	PCIE_RXN1	PCIE_TXN1	A69
B70	GND	GND	A70
B71	N/C	N/C	A71
B72	N/C	N/C	A72
B73	N/C	N/C	A73
B74	N/C	N/C	A74
B75	N/C	N/C	A75
B76	N/C	N/C	A76
B77	N/C	N/C	A77
B78	N/C	N/C	A78
B79	N/C	N/C	A79
B80	GND	GND	A80
B81	N/C	N/C	A81
B82	N/C	N/C	A82
B83	N/C	N/C	A83
B84	VCC_5V_SBY	N/C	A84
B85	VCC_5V_SBY	DIO_3	A85
B86	VCC_5V_SBY	N/C	A86
B87	VCC_5V_SBY	N/C	A87
B88	BIOS_DIS1#	COM_EXP_CLK_P	A88
B89	N/C	COM_EXP_CLK_N	A89
B90	GND	GND	A90
B91	N/C	SPI_POWER	A91
B92	N/C	SPI_MISO	A92
B93	N/C	DIO_4	A93
B94	N/C	SPI_CLK	A94
B95	N/C	SPI_MOSI	A95
B96	N/C	COM_TPM_PP	A96
B97	SPI_CS0#	N/C	A97
B98	N/C	UART_TX0	A98
B99	N/C	UART_RX0	A99
B100	GND	GND	A100
B101	FAN_PWMOUT	UART_TX1	A101
B102	FAN_TACHIN	UART_RX1	A102
B103	SLEEP#	LID#	A103
B104	VCC_12V	VCC_12V	A104
B105	VCC_12V	VCC_12V	A105
B106	VCC_12V	VCC_12V	A106
B107	VCC_12V	VCC_12V	A107
B108	VCC_12V	VCC_12V	A108
B109	VCC_12V	VCC_12V	A109
B110	GND	GND	A110

COM Express CD Connector (bottom side)

D1	GND	GND	C1
D2	GND	GND	C2
D3	USB3_TXN1	USB3_RXN1	C3
D4	USB3_TXP1	USB3_RXP1	C4
D5	GND	GND	C5
D6	USB3_TXN2	USB3_RXN2	C6
D7	USB3_TXP2	USB3_RXP2	C7
D8	GND	GND	C8
D9	USB3_TXN5	USB3_RXN5	C9
D10	USB3_TXP5	USB3_RXP5	C10
D11	GND	GND	C11
D12	USB3_TXN6	USB3_RXN6	C12
D13	USB3_TXP6	USB3_RXP6	C13
D14	GND	GND	C14
D15	N/C	N/C	C15
D16	N/C	N/C	C16
D17	N/C	N/C	C17
D18	N/C	N/C	C18
D19	PCIE_TXP7	PCIE_RXP7	C19
D20	PCIE_TXN7	PCIE_RXN7	C20
D21	GND	GND	C21
D22	PCIE_TXP8	PCIE_RXP8	C22
D23	PCIE_TXN8	PCIE_RXN8	C23
D24	N/C	N/C	C24
D25	N/C	N/C	C25
D26	N/C	N/C	C26
D27	N/C	N/C	C27
D28	N/C	N/C	C28
D29	N/C	N/C	C29
D30	N/C	N/C	C30
D31	GND	GND	C31
D32	N/C	N/C	C32
D33	N/C	N/C	C33
D34	N/C	N/C	C34
D35	N/C	N/C	C35
D36	N/C	N/C	C36
D37	N/C	N/C	C37
D38	N/C	N/C	C38
D39	N/C	N/C	C39
D40	N/C	N/C	C40
D41	GND	GND	C41
D42	N/C	N/C	C42
D43	N/C	N/C	C43
D44	N/C	N/C	C44
D45	N/C	N/C	C45
D46	N/C	N/C	C46
D47	N/C	N/C	C47
D48	N/C	N/C	C48
D49	N/C	N/C	C49
D50	N/C	N/C	C50
D51	GND	GND	C51
D52	PE1_TX_DP_0	PE1_RX_DP_0	C52
D53	PE1_TX_DN_0	PE1_RX_DN_0	C53
D54	+V3.3S	N/C	C54
D55	PE1_TX_DP_1	PE1_RX_DP_1	C55

D56	PE1_TX_DN_1	PE1_RX_DN_1	C56
D57	TYPE2#	N/C	C57
D58	PE1_TX_DP_2	PE1_RX_DP_2	C58
D59	PE1_TX_DN_2	PE1_RX_DN_2	C59
D60	GND	GND	C60
D61	PE1_TX_DP_3	PE1_RX_DP_3	C61
D62	PE1_TX_DN_3	PE1_RX_DN_3	C62
D63	N/C	N/C	C63
D64	N/C	N/C	C64
D65	PE1_TX_DP_4	PE1_RX_DP_4	C65
D66	PE1_TX_DN_4	PE1_RX_DN_4	C66
D67	N/C	N/C	C67
D68	PE1_TX_DP_5	PE1_RX_DP_5	C68
D69	PE1_TX_DN_5	PE1_RX_DN_5	C69
D70	GND	GND	C70
D71	PE1_TX_DP_6	PE1_RX_DP_6	C71
D72	PE1_TX_DN_6	PE1_RX_DN_6	C72
D73	GND	GND	C73
D74	PE1_TX_DP_7	PE1_RX_DP_7	C74
D75	PE1_TX_DN_7	PE1_RX_DN_7	C75
D76	GND	GND	C76
D77	N/C	N/C	C77
D78	PE1_TX_DP_8	PE1_RX_DP_8	C78
D79	PE1_TX_DN_8	PE1_RX_DN_8	C79
D80	GND	GND	C80
D81	PE1_TX_DP_9	PE1_RX_DP_9	C81
D82	PE1_TX_DN_9	PE1_RX_DN_9	C82
D83	N/C	N/C	C83
D84	GND	GND	C84
D85	PE1_TX_DP_10	PE1_RX_DP_10	C85
D86	PE1_TX_DN_10	PE1_RX_DN_10	C86
D87	GND	GND	C87
D88	PE1_TX_DP_11	PE1_RX_DP_11	C88
D89	PE1_TX_DN_11	PE1_RX_DN_11	C89
D90	GND	GND	C90
D91	PE1_TX_DP_12	PE1_RX_DP_12	C91
D92	PE1_TX_DN_12	PE1_RX_DN_12	C92
D93	GND	GND	C93
D94	PE1_TX_DP_13	PE1_RX_DP_13	C94
D95	PE1_TX_DN_13	PE1_RX_DN_13	C95
D96	GND	GND	C96
D97	N/C	N/C	C97
D98	PE1_TX_DP_14	PE1_RX_DP_14	C98
D99	PE1_TX_DN_14	PE1_RX_DN_14	C99
D100	GND	GND	C100
D101	PE1_TX_DP_15	PE1_RX_DP_15	C101
D102	PE1_TX_DN_15	PE1_RX_DN_15	C102
D103	GND	GND	C103
D104	VCC_12V	VCC_12V	C104
D105	VCC_12V	VCC_12V	C105
D106	VCC_12V	VCC_12V	C106
D107	VCC_12V	VCC_12V	C107
D108	VCC_12V	VCC_12V	C108
D109	VCC_12V	VCC_12V	C109
D110	GND (FIXED)	GND	C110