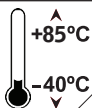


**Wide Operating
Temperature**



EmETXe-i92U0

COM Express® Compact Type 6 CPU Module

Quick Installation Guide

Version 1.1

Form Factor <i>COM Express® Compact Type 6 CPU Module</i>	CPU <i>11th Gen. Intel® Core™ i7-1185G7E/ i5-1145G7E/ i3-1115G4E/ Celeron 6305E</i>	Video <i>24-bit Dual Channels LVDS/ DDI/ Analog RGB</i>
LAN <i>Intel® i219LM PCIe GbE PHY</i>	Audio <i>HD Audio Link</i>	I/O <i>USB / SATA/ PCIe / PC/ UART</i>

◆ Technical Support

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

<http://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.

E-mail: info@arbor.com.tw

FCC Class A

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)

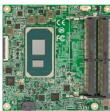
Module Type 2, 3, 4, 5 and 6 support two connectors with four rows of pins (440 pins) Connector placement and most mounting holes have transparency between Form Factors.

The differences among the Module Type 6 and EmETXe-i92U0 are summarized in table below:

Module Type	Standard Type 6	EmETXe-i92U0
Connectors	2	2
Connector Rows	A, B, C, D	A, B, C, D
PCIe Lanes (Max)	24	8
LAN (Max)	1	1
Serial Ports (Max)	2	2
Digital Display I/F (Max)	3	2
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-i92U0 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 11th Generation Intel® Core™ - i7-1185G7E 1.8GHz(Base)/ 4.4GHz (Turbo) - i5-1145G7E 1.5GHz(Base)/ 4.1GHz (Turbo) - i3-1115G4E 2.2GHz(Base)/ 3.9GHz (Turbo) - Celeron 6305E 1.8GHz processor
Memory	2 x DDR4 SO-DIMM sockets
BIOS	AMI UEFI BIOS
Watchdog Timer	1~255 levels reset
I/O	
USB Port	12 x USB ports: - 8 x USB 2.0 ports - 4 x USB 3.2 ports
Serial Port	2 x UART ports (RX/TX only)
Expansion Bus	1 x PCIe4 lanes*, 4 x PCIe1 lanes, I ² C Interface, GPIO <small>*Note: One PCIe4 lane is from CPU, and it can not be configured as four x1 lanes.</small>
Storage	Two Serial ATA ports with 600MB/s HDD transfer rate
Ethernet Chipset	1 x Intel® i219LM PCIe GbE PHY w/ iAMT
Audio	HD audio link
TPM	Supports TPM 2.0
MIPI DSI	Supports MIPI DSI interface via on CPU module connector (OEM Request)
Display	
Graphic Chipset	Integrated Intel® Iris Xe or UHD Graphics (Depends on CPU SKU)

Graphic Interface	LCD: Dual Channels 24-bit LVDS 1 x Analog RGB port 3 x DDI ports (Max 4 independent display)
Mechanical & Environmental	
Power Requirement	8.5V ~ 20V wide range voltage input, +5VSB +/- 5% support for S3
Power Consumption	1.46A@20V 8A@8.5V (i7-1185G7E CPU Module only)
Operating Temp.	-40 ~ 85°C (-40 ~ 185°F)
Operating Humidity	10 ~ 95% @ 85°C (non-condensing)
Dimensions (L x W)	95 x 95 mm (3.7" x 3.7")

Ordering Information

EmETXe-i92U0-WT-1185G7E	11 th Gen. Intel® Core™ i7-1185G7E WT COMe Compact Type 6 CPU module, -40 ~ 85°C
EmETXe-i92U0-WT-1145G7E	11 th Gen. Intel® Core™ i5-1145G7E WT COMe Compact Type 6 CPU module, -40 ~ 85°C
EmETXe-i92U0-WT-1115G4E	11 th Gen. Intel® Core™ i3-1115G4E WT COMe Compact Type 6 CPU module, -40 ~ 85°C
EmETXe-i92U0-WT-6305E	11 th Gen. Intel® Celeron 6305E WT COMe Compact Type 6 CPU module, -40 ~ 85°C

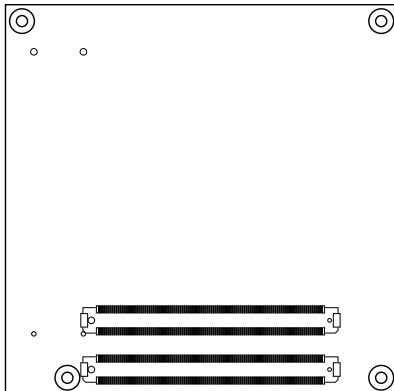
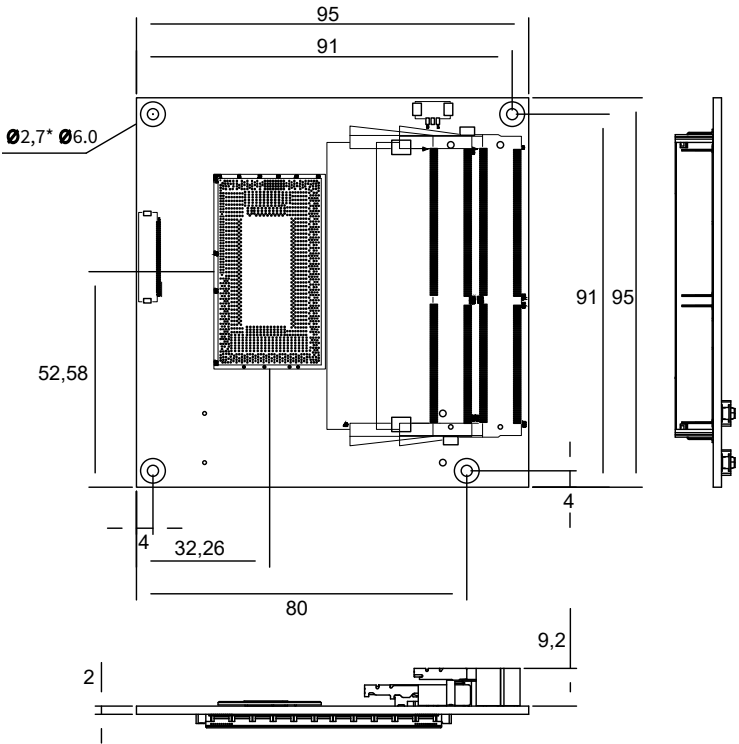
Optional Accessories

HS-92U0-C1	Heat sink with Fan (95x95x50mm)
HS-91U0-F2-T	Heat spreader, threaded standoffs (bore hole) (95x95x11mm)
HS-91U0-F2-NT	Heat spreader, non-threaded standoffs (bore hole) (95x95x11mm)
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 Installation

To install the drivers, please visit our website at www.arbor-technology.com and download the drivers from the **Download Center**.

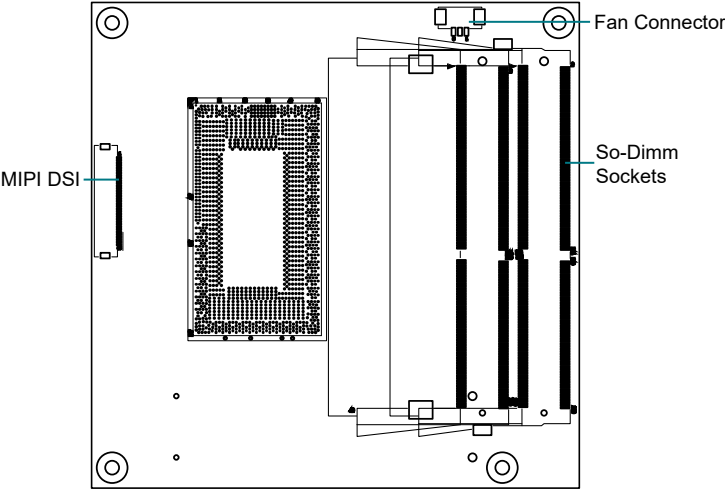
Board Dimensions



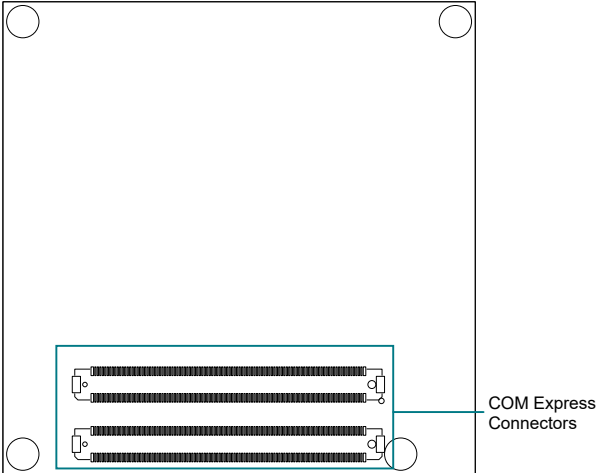
Unit: mm

Connectors Quick Reference

Top Side



Bottom Side



FAN1: Fan connector

Connector type: Wafer 3-pin 1.25mm 85204-03X0L

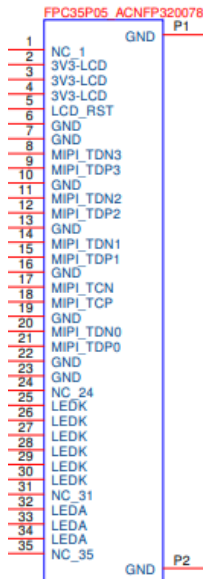
Pin	Description
1	GND
2	Fan out
3	Fan Tachometer Input



MIPI DSI: MIPI DSI connector (by OEM request)

Connector type: Wafer 35-pin

Pin	Description	Pin	Description
1	NC1	19	GND
2	3V3-LCD	20	MIPI_TCN0
3	3V3-LCD	21	MIPI_TCP0
4	3V3-LCD	22	GND
5	LCD_RST	23	GND
6	GND	24	NC_24
7	GND	25	LEDK
8	MIPI_TDN3	26	LEDK
9	MIPI_TDP3	27	LEDK
10	GND	28	LEDK
11	MIPI_TDN2	29	LEDK
12	MIPI_TDP2	30	LEDK
13	GND	31	NC_31
14	MIPI_TDN1	32	LEDA
15	MIPI_TDP1	33	LEDA
16	GND	34	LEDA
17	MIPI_TCN	35	NC_35
18	MIPI_TCP		



COM Express AB Connector (bottom side)

B1	GND	GND	A1	B56	PCIE_RXN5	PCIE_TXN5	A56
B2	LAN_LED_LNK#_ACT	LAN1_MDI3N	A2	B57	DIO_6	GND	A57
B3	LPC_FRAME#	LAN1_MDI3P	A3	B58	PEG_RXP3	PEG_TXP3	A58
B4	LPC_AD0	LAN_LED_100#	A4	B59	PEG_RXN3	PEG_TXN3	A59
B5	LPC_AD1	LAN_LED_1000#	A5	B60	GND	GND	A60
B6	LPC_AD2	LAN1_MDI2N	A6	B61	PEG_RXP2	PEG_TXP2	A61
B7	LPC_AD3	LAN1_MDI2P	A7	B62	PEG_RXN2	PEG_TXN2	A62
B8	LPC_LDRQ0-	LAN_LED_LNK#	A8	B63	DIO_7	DIO_1	A63
B9	LPC_LDRQ1-	LAN1_MDI1N	A9	B64	PEG_RXP1	PEG_TXP1	A64
B10	LPC_CLK_EXPRESS	LAN1_MDI1P	A10	B65	PEG_RXN1	PEG_TXN1	A65
B11	GND	GND	A11	B66	PCH_WAKE#	GND	A66
B12	CB_PWRBTN#	LAN1_MDI0N	A12	B67	EC_WAKE_IN#	DIO_2	A67
B13	CB_SMB_CLK	LAN1_MDI0P	A13	B68	PEG_RXP0	PEG_TXP0	A68
B14	CB_SMB_DATA	0V9_LAN	A14	B69	PEG_RXN0	PEG_TXN0	A69
B15	SMB_ALERT#	SLP_S3#	A15	B70	GND	GND	A70
B16	SATA_TXP1	SATA0_TXP	A16	B71	LVDSB_DATA0	LVDSA_DATA0	A71
B17	SATA_TXN1	SATA0_TXN	A17	B72	LVDSB_DATA0-	LVDSA_DATA0-	A72
B18	SUS_STAT#	SLP_S4#	A18	B73	LVDSB_DATA1	LVDSA_DATA1	A73
B19	SATA_RXP1	SATA0_RXP	A19	B74	LVDSB_DATA1-	LVDSA_DATA1-	A74
B20	SATA_RXN1	SATA0_RXN	A20	B75	LVDSB_DATA2	LVDSA_DATA2	A75
B21	GND	GND	A21	B76	LVDSB_DATA2-	LVDSA_DATA2-	A76
B22	N/C	N/C	A22	B77	LVDSB_DATA3	LVDS_VDDEN	A77
B23	N/C	N/C	A23	B78	LVDSB_DATA3-	LVDSA_DATA3	A78
B24	CB_PWROK	SLP_S5#	A24	B79	LVDS_BKLTEN	LVDSA_DATA3-	A79
B25	N/C	N/C	A25	B80	GND	GND	A80
B26	N/C	N/C	A26	B81	LVDSB_CLK+	LVDSA_CLK	A81
B27	WDT	PM_BATLOW#	A27	B82	LVDSB_CLK-	LVDSA_CLK-	A82
B28	N/C	SATALED-	A28	B83	COM_BKLT_CTRL	LVDS_DDC_CLK	A83
B29	HDA_SDIN1	HDA_SYNC	A29	B84	VCC_5V_SBY	LVDS_DDC_DATA	A84
B30	HDA_SDIN0	HDA_RST-	A30	B85	VCC_5V_SBY	DIO_3	A85
B31	GND	GND	A31	B86	VCC_5V_SBY	H_RCIN#	A86
B32	SPKR	HDA_BIT_CLK	A32	B87	VCC_5V_SBY	COME_EDP_HPD	A87
B33	I2C_CLK	HDA_SDOUT	A33	B88	BIOS_DISABLE1#	COM_EXP_CLK_P	A88
B34	I2C_DATA	BIOS_DISABLE0#	A34	B89	VGA_RED	COM_EXP_CLK_N	A89
B35	THRM#	CB_TRIP#	A35	B90	GND	GND	A90
B36	USBP_7N	USBP_6N	A36	B91	VGA_GREEN	SPI_POWER_+V3.3A	A91
B37	USBP_7P	USBP_6P	A37	B92	VGA_BLUE	SPI_MISO	A92
B38	USBOC_4567-	USBOC_4567-	A38	B93	VGA_HSYNC	DIO_4	A93
B39	USBP_5N	USBP_4N	A39	B94	VGA_VSYNC	SPI_CLK	A94
B40	USBP_5P	USBP_4P	A40	B95	VGA_DDC_CLK	SPI_MOSI	A95
B41	GND	GND	A41	B96	VGA_DDC_DATA	COM_TPM_PP	A96
B42	USBP_3N	USBP_2N	A42	B97	SPL_CS0#	N/C	A97
B43	USBP_3P	USBP_2P	A43	B98	N/C	UART_TX0	A98
B44	USBOC_0123-	USBOC_0123-	A44	B99	N/C	UART_RX0	A99
B45	USBP_1N	USBP_0N	A45	B100	GND	GND	A100
B46	USBP_1P	USBP_0P	A46	B101	FAN_PWMOUT	UART_TX1	A101
B47	PLTRST#_BUFF	VRTC_BT#	A47	B102	FAN_TACHIN	UART_RX1	A102
B48	EXCD1_CCPE#	PLTRST#_BUFF	A48	B103	SLEEP#	LID#	A103
B49	CB_SYSRST#	EXCD0_CCPE#	A49	B104	VCC_12V	VCC_12V	A104
B50	CB_RESET#	LPC_SERIRQ	A50	B105	VCC_12V	VCC_12V	A105
B51	GND	GND	A51	B106	VCC_12V	VCC_12V	A106
B52	PCIE_RXP6	PCIE_TXP6	A52	B107	VCC_12V	VCC_12V	A107
B53	PCIE_RXN6	PCIE_TXN6	A53	B108	VCC_12V	VCC_12V	A108
B54	DIO_5	DIO_0	A54	B109	VCC_12V	VCC_12V	A109
B55	PCIE_RXP5	PCIE_TXP5	A55	B110	GND	GND	A110

COM Express CD Connector (bottom side)

D1	GND	GND	C1	D56	N/C	N/C	C56
D2	GND	GND	C2	D57	GND	N/C	C57
D3	USB3_TXN0	USB3_RXN0	C3	D58	N/C	N/C	C58
D4	USB3_TXP0	USB3_RXP0	C4	D59	N/C	N/C	C59
D5	GND	GND	C5	D60	GND	GND	C60
D6	USB3_TXN1	USB3_RXN1	C6	D61	N/C	N/C	C61
D7	USB3_TXP1	USB3_RXP1	C7	D62	N/C	N/C	C62
D8	GND	GND	C8	D63	N/C	N/C	C63
D9	USB3_TXN2	USB3_RXN2	C9	D64	N/C	N/C	C64
D10	USB3_TXP2	USB3_RXP2	C10	D65	N/C	N/C	C65
D11	GND	GND	C11	D66	N/C	N/C	C66
D12	USB3_TXN3	USB3_RXN3	C12	D67	GND	N/C	C67
D13	USB3_TXP3	USB3_RXP3	C13	D68	N/C	N/C	C68
D14	GND	GND	C14	D69	N/C	N/C	C69
D15	DDI0_CLK_AUX	N/C	C15	D70	GND	GND	C70
D16	DDI0_DATA_AUX#	N/C	C16	D71	N/C	N/C	C71
D17	N/C	N/C	C17	D72	N/C	N/C	C72
D18	N/C	N/C	C18	D73	GND	GND	C73
D19	PCIE_TXP7	PCIE_RXP7	C19	D74	N/C	N/C	C74
D20	PCIE_TXN7	PCIE_RXN7	C20	D75	N/C	N/C	C75
D21	GND	GND	C21	D76	GND	GND	C76
D22	PCIE_TXP8	PCIE_RXP8	C22	D77	N/C	N/C	C77
D23	PCIE_TXN8	PCIE_RXN8	C23	D78	N/C	N/C	C78
D24	N/C	DDP0_HPD	C24	D79	N/C	N/C	C79
D25	N/C	N/C	C25	D80	GND	GND	C80
D26	DDI0_PAIR_0	N/C	C26	D81	N/C	N/C	C81
D27	DDI0_PAIR_0#	N/C	C27	D82	N/C	N/C	C82
D28	N/C	N/C	C28	D83	N/C	N/C	C83
D29	DDI0_PAIR_1	N/C	C29	D84	GND	GND	C84
D30	DDI0_PAIR_1#	N/C	C30	D85	N/C	N/C	C85
D31	GND	GND	C31	D86	N/C	N/C	C86
D32	DDI0_PAIR_2	DDI1_CLK_AUX	C32	D87	GND	GND	C87
D33	DDI0_PAIR_2#	DDI1_DATA_AUX#	C33	D88	N/C	N/C	C88
D34	DDI0_DDC_AUX_SEL	DDI1_DDC_AUX_SEL	C34	D89	N/C	N/C	C89
D35	N/C	N/C	C35	D90	GND	GND	C90
D36	DDI0_PAIR_3	DDI2_CLK_AUX	C36	D91	N/C	N/C	C91
D37	DDI0_PAIR_3#	DDI2_DATA_AUX#	C37	D92	N/C	N/C	C92
D38	N/C	DDI2_DDC_AUX_SEL	C38	D93	GND	GND	C93
D39	DDI1_PAIR_0	DDI2_PAIR_0	C39	D94	N/C	N/C	C94
D40	DDI1_PAIR_0#	DDI2_PAIR_0#	C40	D95	N/C	N/C	C95
D41	GND	GND	C41	D96	GND	GND	C96
D42	DDI1_PAIR_1	DDI2_PAIR_1	C42	D97	N/C	N/C	C97
D43	DDI1_PAIR_1#	DDI2_PAIR_1#	C43	D98	N/C	N/C	C98
D44	DDP1_HPD	DDP2_HPD	C44	D99	N/C	N/C	C99
D45	N/C	N/C	C45	D100	GND	GND	C100
D46	DDI1_PAIR_2	DDI2_PAIR_2	C46	D101	N/C	N/C	C101
D47	DDI1_PAIR_2#	DDI2_PAIR_2#	C47	D102	N/C	N/C	C102
D48	N/C	N/C	C48	D103	GND	GND	C103
D49	DDI1_PAIR_3	DDI2_PAIR_3	C49	D104	VCC_12V	VCC_12V	C104
D50	DDI1_PAIR_3#	DDI2_PAIR_3#	C50	D105	VCC_12V	VCC_12V	C105
D51	GND	GND	C51	D106	VCC_12V	VCC_12V	C106
D52	N/C	N/C	C52	D107	VCC_12V	VCC_12V	C107
D53	N/C	N/C	C53	D108	VCC_12V	VCC_12V	C108
D54	PEG_LANE_RV#	N/C	C54	D109	VCC_12V	VCC_12V	C109
D55	N/C	N/C	C55	D110	GND	GND	C110

Block Diagram

