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# EmQ-i2205

## Qseven® R2.0 CPU Module

### Quick Installation Guide

Version 1.0

<b>Form Factor</b> Qseven® CPU Module	<b>CPU</b> Intel® Celeron™ Processor N3060/N3160	<b>Video</b> DisplayPort/ eDP port
<b>LAN</b> Intel® i210AT PCIe GbE controller	<b>Audio</b> HD Link	<b>I/O</b> USB2.0/ USB SuperSpeed/ SATA/ PCIe1/ UART

### ◆ Technical Support

If you have any technical difficulties, please consult the user's manual first at:  
<http://www.arbor-technology.com>

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

E-mail: [info@arbor.com.tw](mailto:info@arbor.com.tw)

Declaration of Conformity  
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.



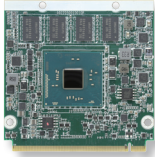
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## Packing List

Before starting with the installation, make sure the following items are shipped:



1 x EmQ-i2205 Qseven® CPU Module

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1 x Driver CD

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1 x Quick Installation Guide

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## Ordering Information

EmQ-i2205-N3060-2G	Intel® Celeron N3060 Qseven® R2.0 CPU Module w/2GB memory soldered on module
EmQ-i2205-N3160-4G	Intel® Celeron N3160 Qseven® R2.0 CPU Module w/4GB memory soldered on module

## Optional Accessories

HS-2200-F1	Heat spreader,70x65x8mm
PBQ-3001	Qseven R2.0 w/ EPIC form factor Carrier Board
CBK-04-3001-00	Cable kit 2 x COM Cables 1 x SATA Cable 1 x SATA Power Cable

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## Specifications

Form Factor	Qseven® CPU Module
Processor	Soldered onboard Intel® Celeron N3060 2.48GHz processor/N3160 2.24GHz processor
Memory	Soldered onboard 2GB DDR3L SDRAM, upgradable to 4GB
BIOS	AMI BIOS
Serial Port	1 x UART port(TX/RX only)
USB 2.0	4 x USB 2.0 ports 2 x USB3.0 SuperSpeed ports
Serial ATA	2 x Serial ATA ports with 600MB/s HDD transfer rate
Expansion	3 x PCIe1, I2C, SDIO
Ethernet Chipset	1 x Intel® i210AT PCIe GbE controller
Audio	HD Link
Graphics Chipset	Integrated Intel® HD Graphic 400
Graphics Interface	2 x DisplayPorts / 1 x eDP port
OS Support	Windows 8.1 64-bit Linux: Ubuntu
Power Requirement	DC 5V
Power Consumption	2.0A@5V with N3060
Operating Temp.	-20 ~ 70°C (-4 ~ 158°F)
Operating Humidity	10 ~ 95% @ 70°C (non-condensing)
Dimension (L x W)	70 x 70 mm (2.76" x 2.76")

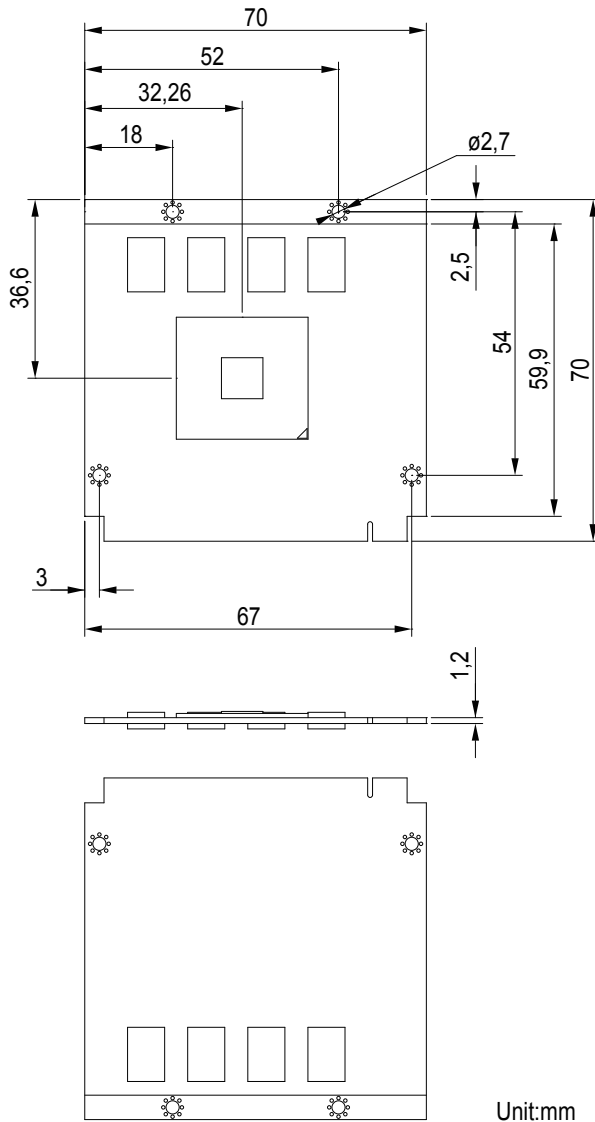
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## Paths to the Drivers on CD

### Windows 8.1 (64-bit)

Driver	Path
Audio	\i220x\Audio
Chipset	\i220x\Chipset\Chipset_10.1.1.11_Public
Ethernet	\i220x\Ethernet
Graphics	\i220x\Graphic\IntelR Graphics Driver Production Version 15.40.14.64.4352
USB3.0	\i220x\USB3.0\win8.1\Intel(R) USB 3.0 eXtensible PV 1.0.0.42
Serial IO	\i220x\Serial IO\win8.1 64bit\SerialIO_BSW_x64
TXE	\i220X\TXE\win8.1\Installers

# Board Dimensions

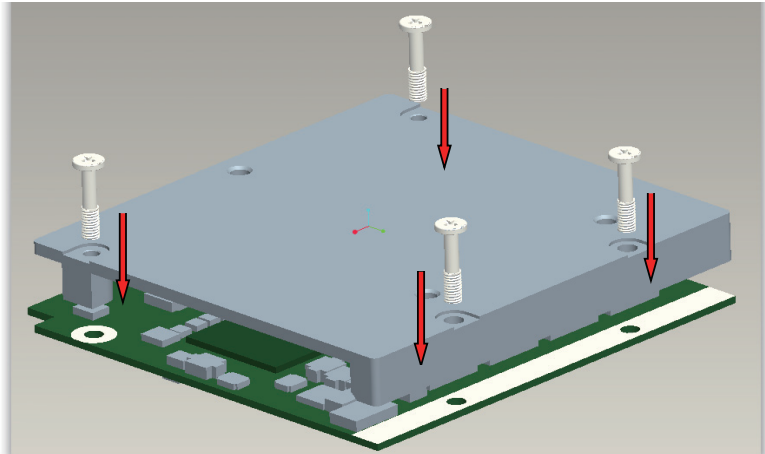


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## Heat Spreader Installation

To install the heat spreader:

See the illustration below. Mount the heat spreader to the board. Fix the heat spreader in place with four screws.



## Connector Pin Assignment

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	GND	2	GND	65	AZ_SDATA_IN0	66	SMB_CLK
3	GBE_MDI3-	4	GBE_MDI2-	67	AZ_SDATA_OUT	68	SMB_DAT
5	GBE_MDI3+	6	GBE_MDI2+	69	THRM#	70	WDTRIG#
7	GBE_LINK100#	8	GBE_LINK1000#	71	THRMTRIP#	72	WDOUT
9	GBE_MDI1-	10	GBE_MDI0-	73	GND	74	GND
11	GBE_MDI1+	12	GBE_MDI0+	75	USB_SSTX0-	76	USB_SSRX0-
13	LED_LINK#	14	GBE_ACT#	77	USB_SSTX0+	78	USB_SSRX0-
15	(N/C)	16	SLP_S4#	79	USB_6_7_OC# (N/C)	80	USB_4_5_OC#(N/C)
17	WAKE#	18	SLP_S3#	81	USB_SSTX1-	82	USB_SSRX1-
19	SUS_STAT#	20	PWR_BTN#	83	USB_SSTX1+	84	USB_SSRX1+
21	SLEEP#	22	LID#	85	USB_-OC2/3	86	USB_-OC0/1
23	GND	24	GND	87	USB_P3-	88	USB_P2-
	KEY		KEY	89	USB_P3+	90	USB_P2+
25	GND	26	PWRGD	91	USB_CC(N/C)	92	USB_ID
27	BATLOW#	28	RSTBTN#	93	USB_P1-	94	USB_P0-
29	SATA0_TX+	30	SATA1_TX+	95	USB_P1+	96	USB_P0+
31	SATA0_TX-	32	SATA1_TX-	97	GND	98	GND
33	HDD_ACT#	34	GND	99	eDP_DDI0_TX0+	100	eDP_DDI1_TX0+
35	SATA0_RX+	36	SATA1_RX+	101	eDP_DDI0_TX0-	102	eDP_DDI1_TX0-
37	SATA0_RX-	38	SATA1_RX-	103	eDP_DDI0_TX1+	104	eDP_DDI1_TX1+
39	GND	40	GND	105	eDP_DDI0_TX1-	106	eDP_DDI1_TX1-
41	BIOS_DISABLE#	42	SD_CLK#	107	eDP_DDI0_TX2+	108	eDP_DDI1_TX2+
43	SD_CD#	44	SD_LED (N/C)	109	eDP_DDI0_TX2-	110	eDP_DDI1_TX2-
45	SD_CMD	46	SD_WP	111	LVDS_VDDEN	112	BLKTEN
47	SD_PWR#	48	SD_DAT1	113	eDP_DDI0_TX3+	114	eDP_DDI1_TX3+
49	SD_DAT0	50	SD_DAT3	115	eDP_DDI0_TX3-	116	eDP_DDI1_TX3-
51	SD_DAT2	52	SD_DAT5 (N/C)	117	GND	118	GND
53	SD_DAT4 (N/C)	54	SD_DAT7 (N/C)	119	eDP_DDI0_AUX+	120	eDP_DDI1_AUX+
55	SD_DAT6 (N/C)	56	RSVD (N/C)	121	eDP_DDI0_AUX-	122	eDP_DDI1_AUX-
57	GND	58	GND	123	LCD_BKLT_CTRL	124	GP_1-Wire_Bus (N/C)
59	AZ_SYNC	60	SMB_CLK	125	eDP_DDI0_DDCDATA	126	eDP0_HPDET#
61	AZ_RST#	62	SMB_DAT	127	eDP_DDI0_DDCCLK	128	eDP1_HPDET#
63	AZ_BIT_CLK	64	SMB_ALERT#	129	CAN0_TX (N/C)	130	CAN0_RX (N/C)

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
131	DP_DDI2_TX3+	132	STP23	197	GND	198	GND
133	DP_DDI2_TX3-	134	STP24	199	SPI_MOSI	200	SPI_CS0#
135	GND	136	GND	201	SPI_MISO	202	SPI_CS1#
137	DP_DDI2_TX1+	138	DP_DDI2_AUX+	203	SPI_SCK	204	MFG_NC4 (N/C)
139	DP_DDI2_TX1-	140	DP_DDI2_AUX-	205	VCC_5V_SB	206	VCC_5V_SB
141	GND	142	GND	207	MFG_NC0 (N/C)	208	MFG_NC2 (N/C)
143	DP_DDI2_TX2+	144	STP25	209	MFG_NC1 (N/C)	210	MFG_NC3 (N/C)
145	DP_DDI2_TX2-	146	STP26	211	VCC	212	VCC
147	GND	148	GND	213	VCC	214	VCC
149	DP_DDI2_TX0+	150	DP_DDI2_DDC-DATA	215	VCC	216	VCC
151	DP_DDI2_TX0-	152	DP_DDI2_DDC-CLK	217	VCC	218	VCC
153	DDI2_HPDET#	154	DDI2_HPDET#	219	VCC	220	VCC
155	PCIE_CLKP0	156	PCIE_WAKE#	221	VCC	222	VCC
157	PCIE_CLKN0	158	PCIE_RST#	223	VCC	224	VCC
159	GND	160	GND	225	VCC	226	VCC
161	PCIE3_TX+	162	PCIE3_RX+	227	VCC	228	VCC
163	PCIE3_TX-	164	PCIE3_RX-	229	VCC	230	VCC
165	GND	166	GND				
167	PCIE2_TX+	168	PCIE2_RX+				
169	PCIE2_TX-	170	PCIE2_RX-				
171	UART1_TXD	172	UART1_RTS				
173	PCIE1_TX+	174	PCIE1_RX+				
175	PCIE1_TX-	176	PCIE1_RX-				
177	UART1_RXD	178	UART1_CTS#				
179	PCIE0_TX+	180	PCIE0_RX+				
181	PCIE0_TX-	182	PCIE0_RX-				
183	GND	184	GND				
185	LPC_LAD0	186	LPC_LAD1				
187	LPC_LAD2	188	LPC_LAD3				
189	LPC_CLK1	190	LPC_FRAME#				
191	SERIRQ	192	LPC_LDRQ#				
193	VCC_RTC	194	SPKR				
195	FAN_TACHOIN (N/C)	196	FAN_PWMOUT				